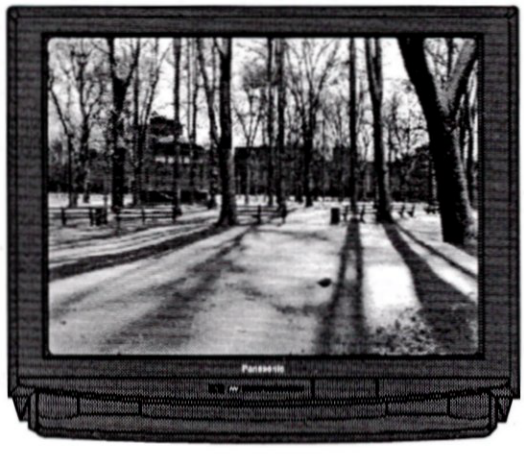
Color Television
Operating Instructions

Panasonic®



CT–35SF23

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

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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 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.

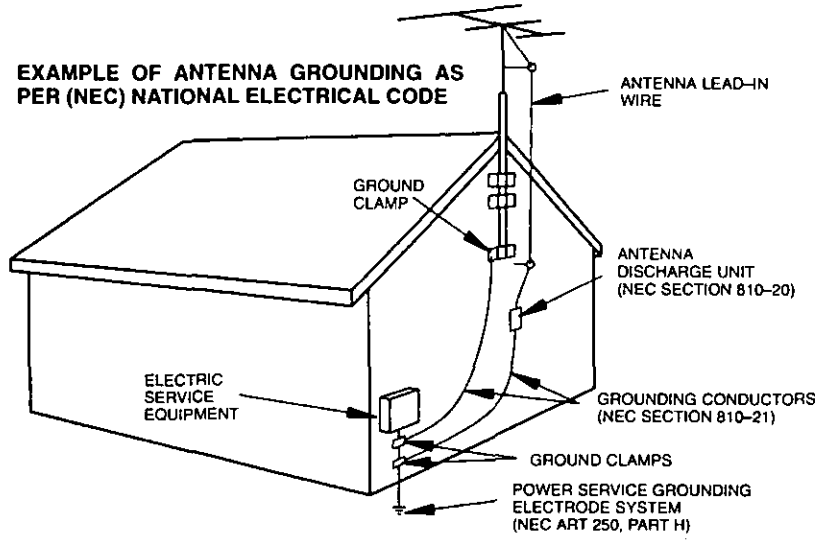
Note to CATV System Installer: This reminder is provided to call the CATV system installer's attention to Article 820–40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to 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.



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, Teletext 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 (3):	1V p–p, 75 ohm, phono jack type
Audio Input Jacks (3)	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:	1 Tuner

Specifications are subject to change without notice or obligation

Channel Capability Chart

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

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: _____

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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

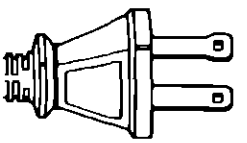
Optional External Equipment Connections

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 input and output connectors your various components require Also determine the length of cable you'll need

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.

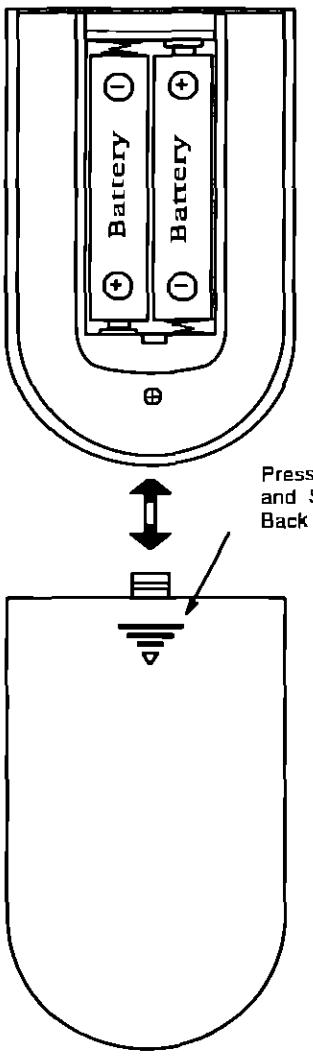


Polarized Plug

Remote Control Battery Installation

Batteries Use two "AA" batteries

1 Turn the Transmitter face down To remove top cover, press down on marking and slide cover off in the direction indicated
2 Install the batteries as shown in the battery compartment (Polarity (+) or (–) must be correct)
3 Replace the cover and slide in reverse until the lock snaps



Helpful Hints:

For frequent Remote Control users, replace old batteries with Alkaline batteries for longer life

Note: In order to maximize the life of the batteries, the lighted buttons on the Remote Control can be turned OFF and ON by pressing R-TUNE and RECALL at the same time.

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

Observe the Following Precautions:

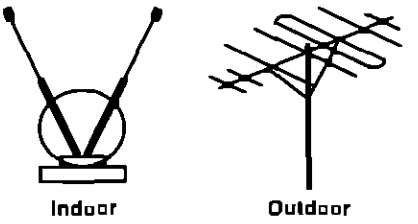
1 Batteries should be replaced as a pair Always use new batteries when replacing the old set
2 Do not combine a used battery with a new one
3 Do not mix battery types (Example "Zinc Carbon" with "Alkaline")
4 Do not attempt to charge, short-circuit, disassemble, heat or burn used batteries
5 Battery 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.** We recommend that you initially record the codes on page 44, when you setup the remote

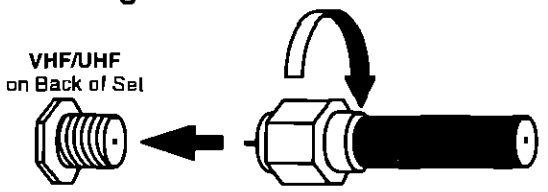
Antenna/Cable Connections

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)

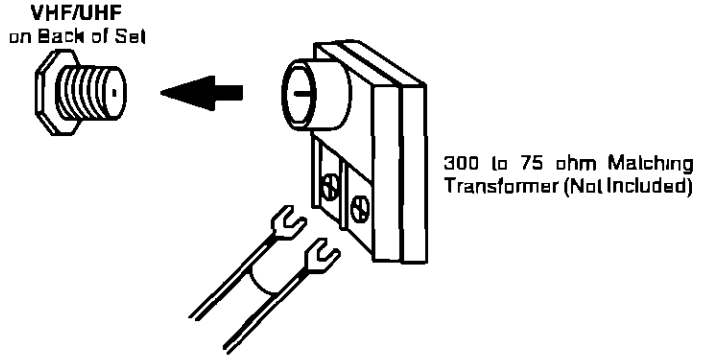


Typical VHF/UHF Antenna

Incoming Cable From Home Antenna (75 Ohm)

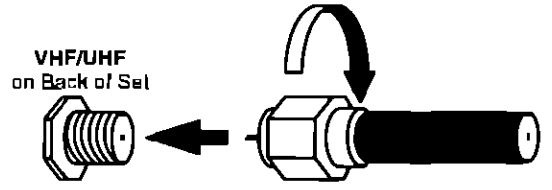


Incoming Cable From Home Antenna (300 Ohm)



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 75 Ohm Cable (From Cable Company)



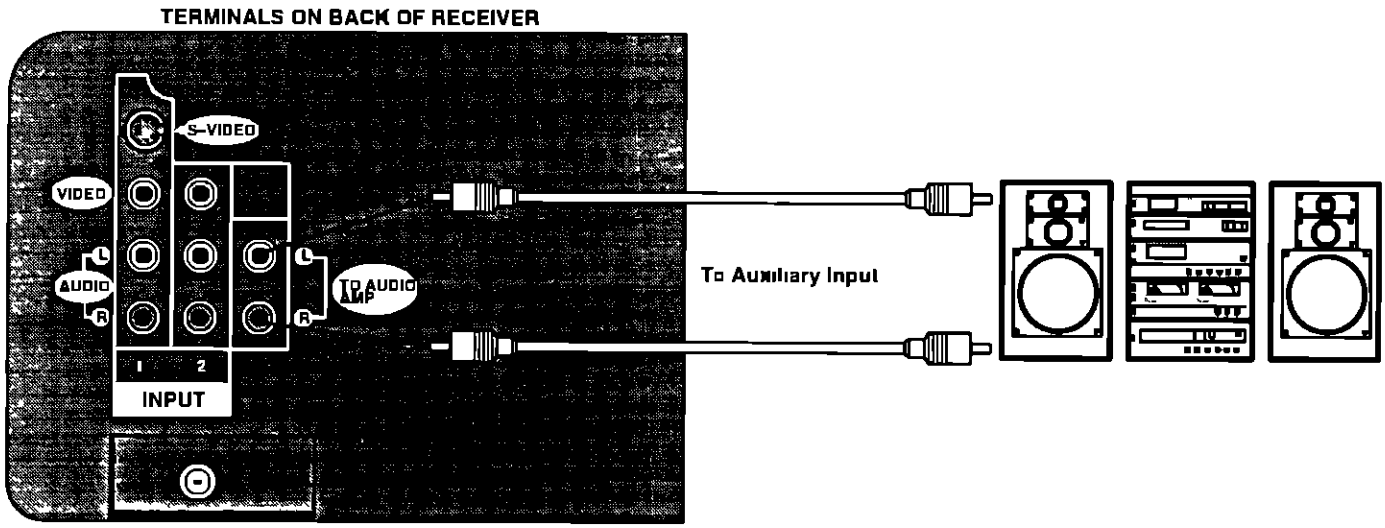
NOTE Certain cable systems offset some channels to reduce interference or have Premium (scrambled) channels A cable converter box is required for proper reception Check with your local Cable company for its compatibility requirements

Other Video Equipment

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

Optional Equipment Connection and Operation

To Audio AMP Connection (Stereo)



- **To Audio AMP**

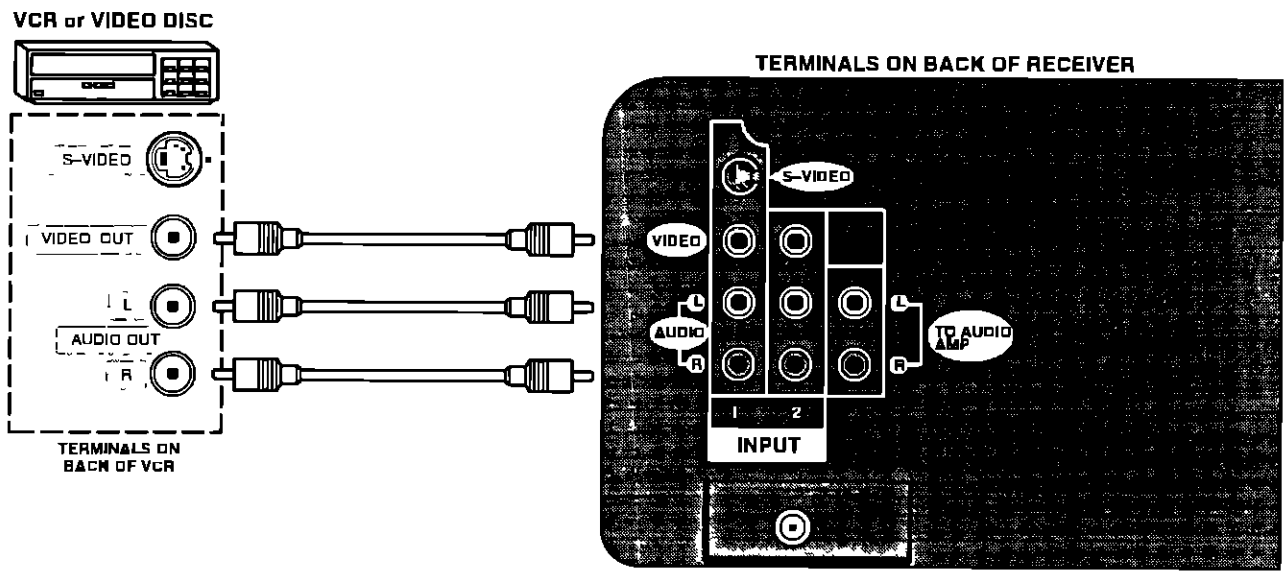
Connect to an external audio amp auxiliary input for monitoring sound through a stereo system

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 Speaker 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 SPEAKER "OFF&VAO" (Variable Audio Out) 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 Out) mode is selected in the Audio Menu, the external amplifier speakers are controlled by the Audio Amplifier

Video/Audio Connection

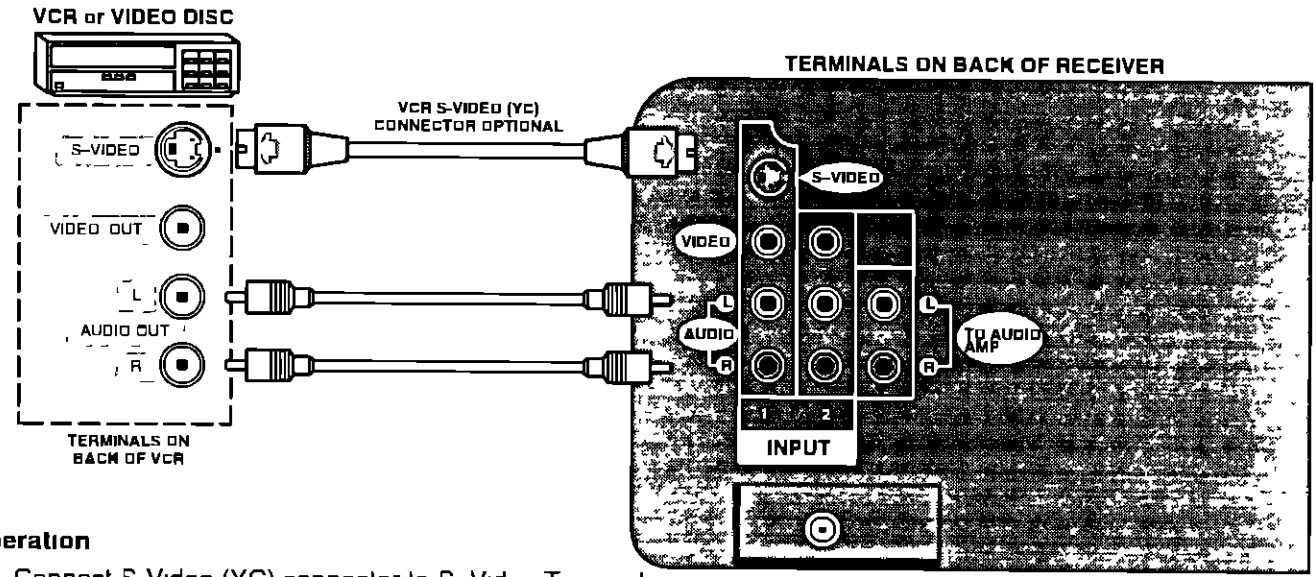


Operation

1 Connect optional equipment as shown to INPUT 1, 2, or 3 (input 3 is located on front of Receiver)
2 Select the desired Video mode by pressing the TV/VIDEO button (or refer to the Input Select Menu)
Note You must select the same VIDEO Mode that the equipment is connected to
3 Operate optional equipment (VCR–VDP) as instructed in Optional Equipment manual

Optional Equipment Connection and Operation (cont.)

S-Video Connection



Operation

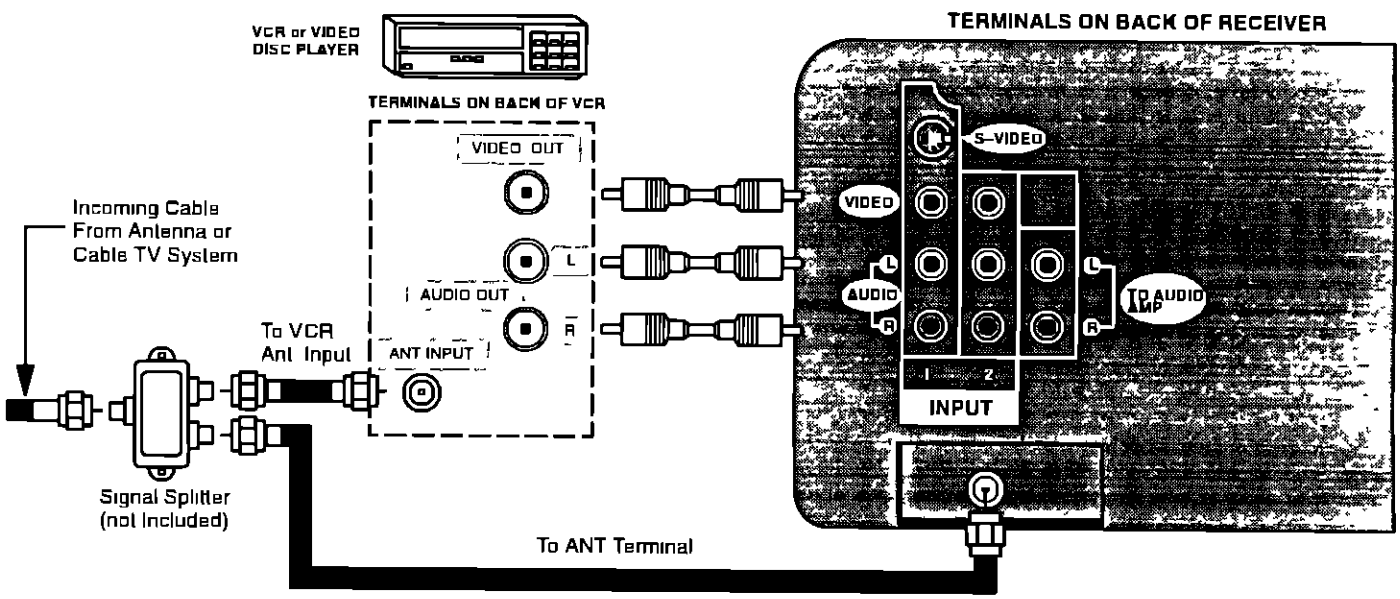
1 Connect S-Video (YC) connector to S–Video Terminals
2 Make connections to L and R Input 1 Audio jacks
3 Select Video1 mode by pressing the TV/VIDEO button (or refer to the Input Select Menu)
4 Operate optional equipment (VCR-VDP) as instructed in Optional Equipment manual

NOTE.

- You 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

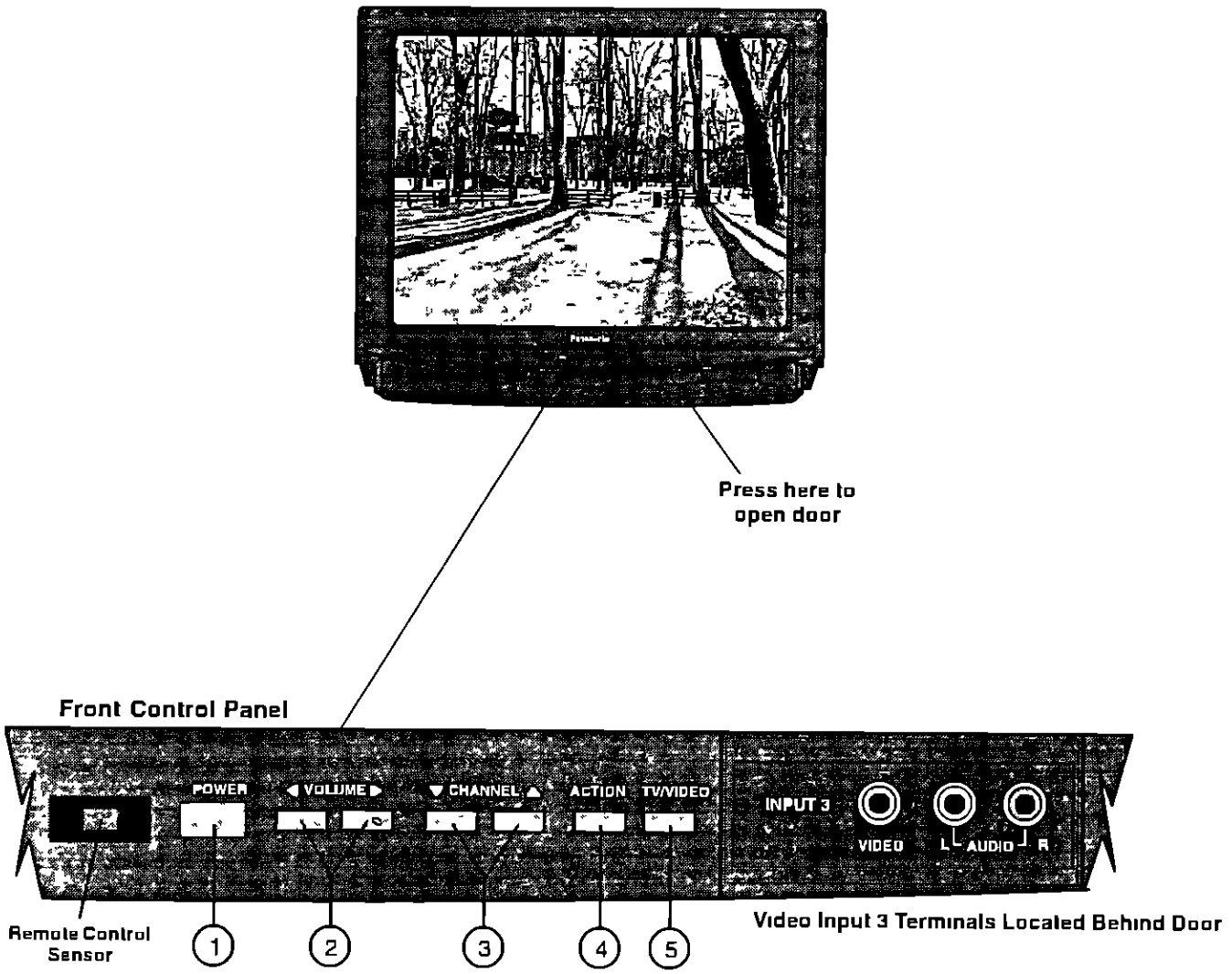


Helpful Hints:

The PIP will operate using Audio/Video input terminals 1, 2, or 3 (input 3 is located on front of Receiver) 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

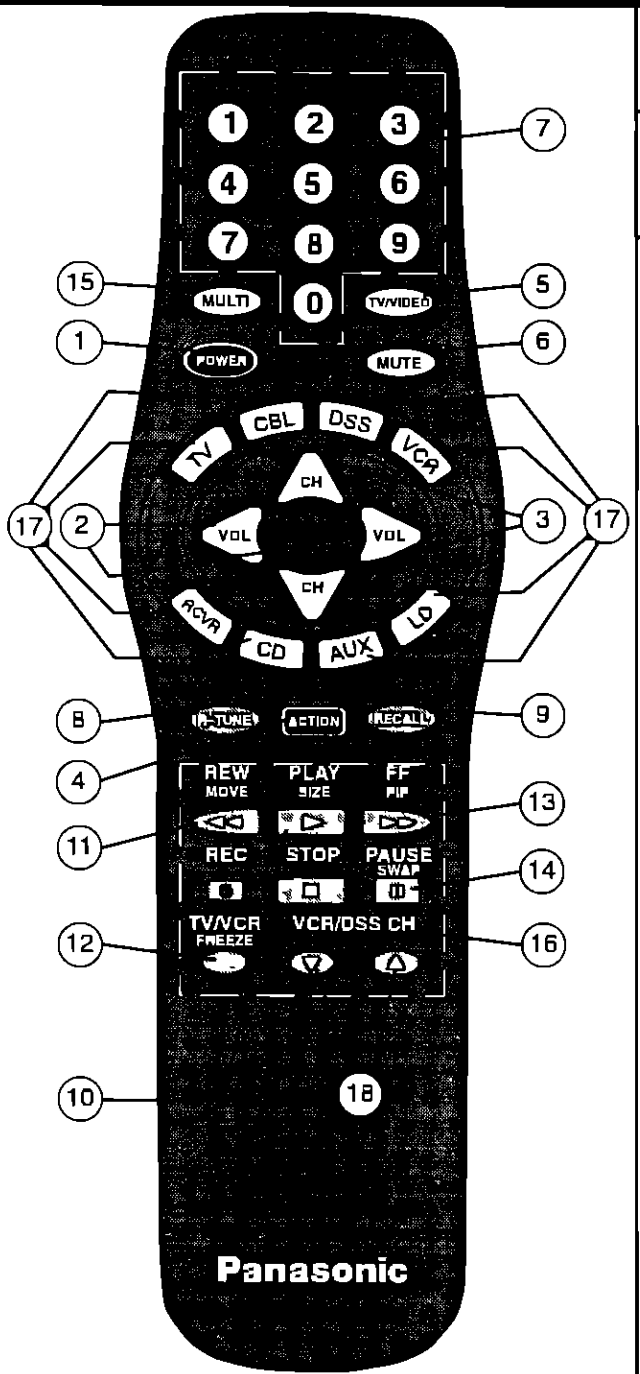
Location of Controls (Receiver)



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 three Video Inputs, for the Main Picture or the PIP frame (when PIP frame is displayed)

Location of Controls for the Illuminated Home Theater Remote Unit



Note: In order to maximize the life of the batteries, the lights can be turned OFF and ON by pressing R-TUNE and RECALL at the same time.

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 any following commands If a different mode button is pressed while operating the television, the TV mode button must be pressed again to reset the TV mode condition

Basic Remote Control Functions

The following is a basic overview of the remote control unit **for television operation Ensure the TV mode is selected by initially pressing** TV.

(1) **Power Button** – Press to turn the TV ON or OFF

(2) **Volume Buttons** – Press to adjust TV sound level Use with Channel buttons to navigate in menus

(3) **Channel Buttons** – Press to select channels Use with Volume buttons to navigate in menus

(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 three (3) Video Inputs, for the Main Picture or the PIP frame (when the PIP frame is displayed)

(6) **Mute Button** – Press to mute sound A second press returns sound

(7) **Keyboard "0 through 9" Buttons** – Press desired channel number to access any channel

(8) **R-Tune (Rapid Tune) Button** – Press to switch to the previous channel

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

(10) **Size Button** – Press to select size of PIP frame (when the PIP frame is displayed)

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

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

(13) **PIP (Picture In Picture) Button** – Press to display the PIP frame, press again to remove PIP frame

(14) **Swap Button** – Press to interchange PIP frame with Main Picture (when the PIP frame is displayed)

(15) **Multi Button** – Programmable to operate up to six (6) Remote Function buttons simultaneously

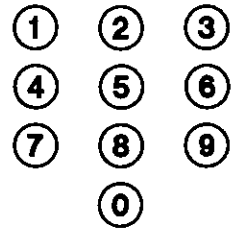
(16) **VCR Function Buttons** – Programmable to operate many brands of VCR's

(17) **Mode Selection Buttons** – Selects the operation mode for the remote control

(18) **VCR/DSS Channel Buttons** – These buttons are used to select VCR or DSS Up/Down channels

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

Remote Control
Quick Reference Functional Key Chart

KEY	MODE	FUNCTION
	**TV** **VCR** **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 ⑨ VCR 3
	CD PLAYER	Selects Track Number
	LD PLAYER	Selects Track Number
	ALL COMPONENTS	Programmable Button That Can Operate Up To Six (6) Remote Functions At Once
	TV	Selects the TV Input Mode
	ALL COMPONENTS	Turns On and Off Selected Components
	TV, DSS, VCR, LDP **CABLE** **RECEIVER/AMPLIFIER**	Mutes TV Audio Mutes Audio Mutes Audio
	TV	TV Mode Selection for Remote Control
	CABLE	Cable Mode Selection for Remote Control
	DSS (DIGITAL SATELLITE SYSTEM)	DSS Mode Selection for Remote Control
	VCR	VCR Mode Selection for Remote Control
	RECEIVER/AMPLIFIER	Receiver/Amplifier Mode Selection for Remote Control
	COMPACT DISC	CD Mode Selection for Remote Control
	CASSETTE PLAYER, DVD	AUX Mode Selection for Remote Control Enables User to Operate a Tape Cassette Player, or Digital Video Disc
	LASER DISC PLAYER	LD Mode Selection for Remote Control
 	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
	TV **CABLE** **DSS** **RECEIVER/AMPLIFIER** **VCR** **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

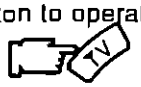
Remote Control
Quick Reference Functional Key Chart

KEY	MODE	FUNCTION
R-TUNE	LDP	Side A/B
	TV	Selects Previously Tuned Channel
	CABLE	Selects Previously Tuned Channel
	VCR	Selects Previously Tuned Channel
	DSS	Selects Previously Tuned Channel
	RECEIVER/AMPLIFIER	Switches between AM and FM
	CD	Selects Next Disc
	TAPE CASSETTE PLAYER	Selects Tape Cassette Player A or B
ACTION	TV	Activates TV Menus
	DSS	Acts as Menu Button for DSS
RECALL	TV	Displays Channel, Time, and Audio Mode
	DSS	Displays Current DSS Settings
	VCR	Displays Current VCR Settings
	LDP	Displays Current LDP Settings
REW MOVE ◁◁	TV	PIP Move
	DSS	DSS Guide
	VCR	Rewind
	LDP	Rewind
	TAPE	Rewind
	CD	Selects Previous Track
	DVD	Rewind
PLAY SIZE ▷	TV	PIP Size
	DSS	Enter/Select
	VCR	Play
	LDP	Play
	TAPE	Play (in Normal Direction)
	CD	Play
	DVD	Play
FF PIP ▷▷	TV	PIP On/Off
	DSS	Exit/Clear
	VCR	Fast Forward
	LDP	Fast Forward
	TAPE	Fast Forward
	CD	Selects Next Track
	DVD	Fast Forward
REC	DSS	One Touch Record in DSS Mode
	VCR	Record
	TAPE	Record
	CABLE	VCR Record
STOP □	DVD	Stop
	VCR	Stop
	LDP	Stop
	TAPE	Stop
	CD	Stop
	CABLE	VCR Stop
PAUSE SWAP ⏸	DVD	Pause
	TV	PIP Swap
	VCR	Pause
	LDP	Pause
	TAPE	Pause
	CD	Pause
	CABLE	VCR Pause
TV/VCR FREEZE ⬭	TV	PIP Freeze
	VCR	Selects TV/VCR Mode
	DSS	Selects TV/DSS Mode
	CABLE	Selects TV/VCR Mode
VCR/DSS CH ▽ △	TV	PIP Channel Up/Down (2 Tuner PIP Models Only)
	VCR	Channel Up/Down
	DSS	Channel Up/Down
	CABLE	VCR Up/Down

Control Operation

Helpful Hints:

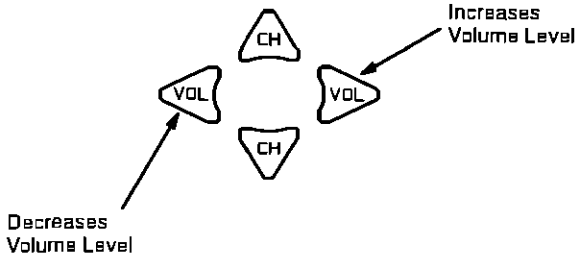
Press the TV Mode Selection button to operate TV Remote functions, if necessary



Power Button – Press the POWER button after selecting a mode to turn ON Press again to turn OFF

Volume Button – Press the VOLUME (VOL) LEFT or RIGHT button for desired listening level (when On-Screen menus are not displayed)

Located On Remote Control



Mute Button – Press the MUTE button to quickly reduce sound level (Mute will appear on screen) Press again to restore sound

Helpful Hints:

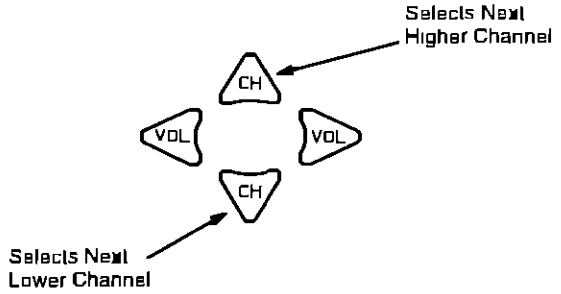
- Helpful information will display On Screen momentarily when Receiver is first turned on and when the channel is changed
- When using keyboard entry for channels 10,11, and 12 in the CABLE mode there is a slight delay before channel change because of the capability of tuning cable channels 100 to 125

NOTE If "SPEAKER OFF" is displayed On Screen after pressing the VOLUME button, refer to Audio Menu to turn Speakers "ON"

Channel Change (UP/DOWN) – Press the CHANNEL (CH) UP or DOWN button to sequentially scan through programmed channels (when On Screen menus are not displayed)

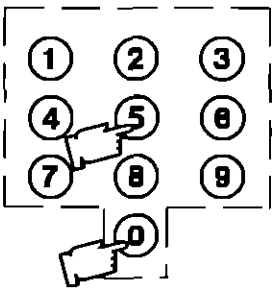
NOTE: Press the TV Mode button to operate TV Remote functions, if necessary

Located On Remote Control



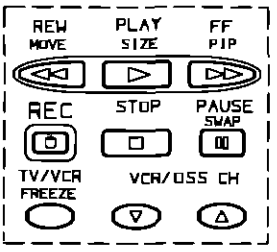
Numeric Keypad (0 through 9 Buttons) –

Press two digits on keypad (Example press 0, then 5 for channel 05) For channels over 99, press three digits on keypad



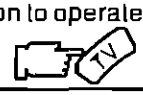
VCR Function Buttons – The VCR FUNCTION buttons have been designed to operate numerous brands of VCRs The infrared code must be obtained prior to use (Please refer to Programming the Universal Remote for programming instructions)

NOTE: Press the VCR Mode Selection button to operate VCR Remote functions



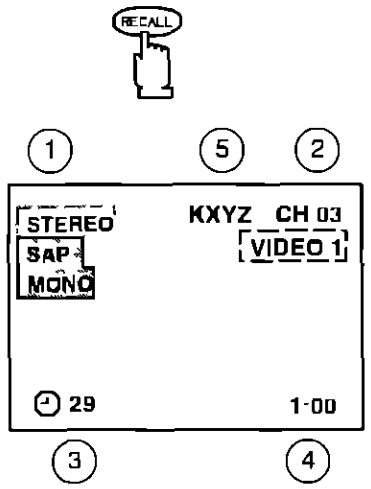
Helpful Hints:

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



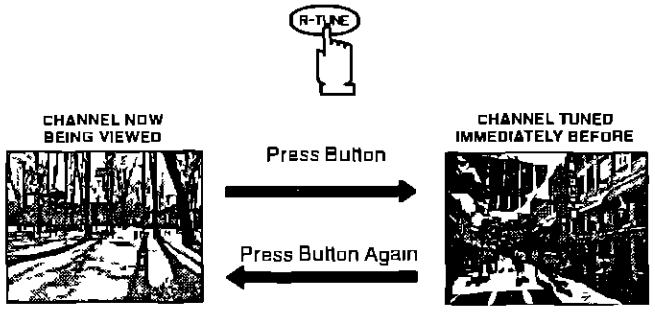
Recall Button – Press the RECALL button to review

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



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

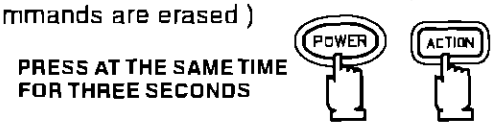
NOTE. When rapidly scanning channels with the CHANNEL UP/DOWN button, pressing the R-TUNE button will switch between the last channel scanned, and initial channel at the start of scanning



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

Procedure

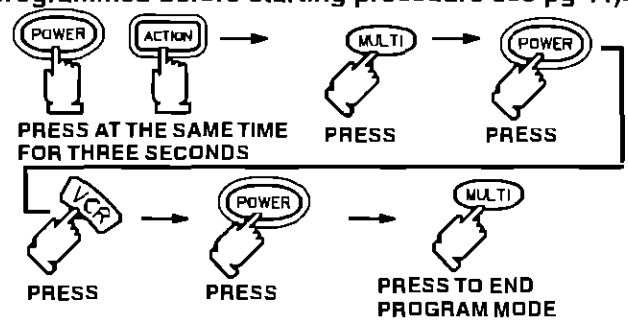
1 First program the Remote for the selected device Infrared access code Confirm that the Remote Control is compatible with the equipment
2 Face the Remote Control transmitter away from all equipment remote sensors
3 Press and hold the Remote POWER button, then press and hold the ACTION button down at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



4 After three seconds, let go of 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

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 end the program mode

The following is an example flow chart of Remote functions that can be programmed into the MULTI button (The VCR Mode button should be programmed before starting procedure see pg 44).



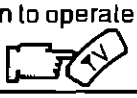
Now you can turn the TV and VCR ON/OFF at the same time with one press of the MULTI button

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 Now you can 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

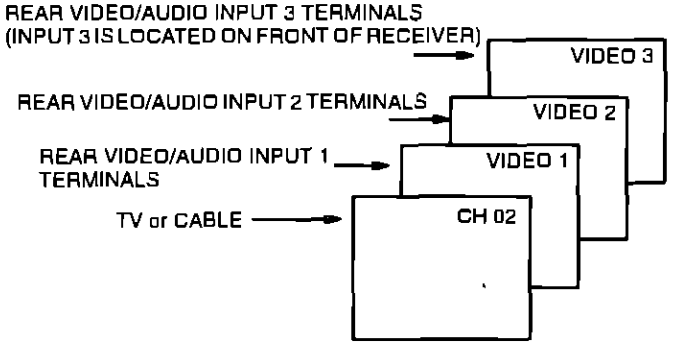
Helpful Hints:

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

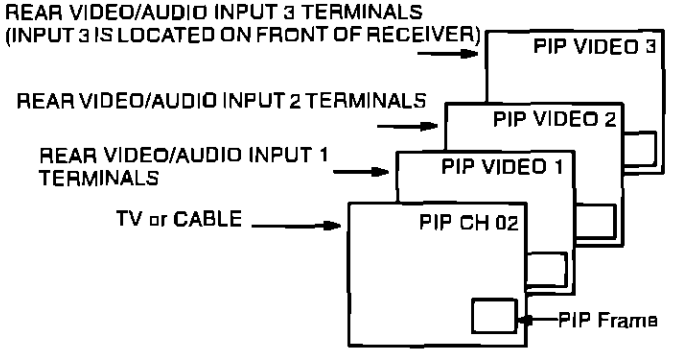


TV/Video Button – Press the TV/VIDEO button to select desired input for Main Picture or PIP frame (when the PIP Frame is displayed)

Signal coming from

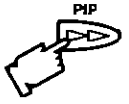


Signal coming from



PIP (Picture in Picture) Button – This feature allows monitoring one channel while watching another when a second video source with a tuner is connected (such as a VCR) to the television

NOTE When the Main Picture is in Video mode with no signal, the PIP will not operate properly

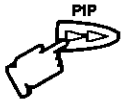


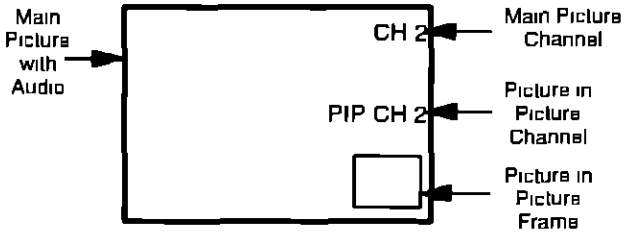
PIP Operation

1 Turn VCR ON and select a desired channel

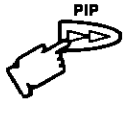
2 Press the TV Mode Selection button to operate TV Remote functions, if necessary

3 Press the PIP button (television 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





4 Press the PIP button again to cancel PICTURE IN PICTURE feature (if desired)

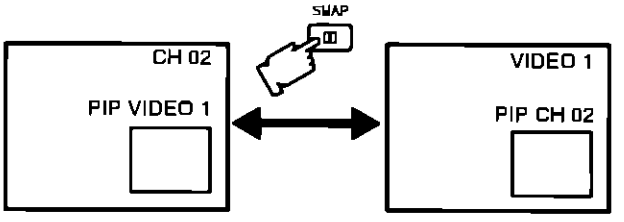


NOTE: For PIP Video source connection, refer to the PIP External Video and Antenna Connections section

Helpful Hints:

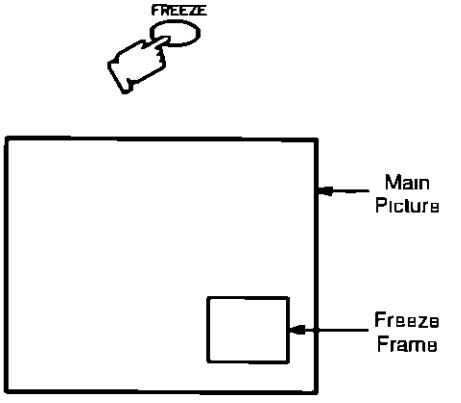
Press the TV Mode Selection button to operate TV Remote functions, if necessary

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



Note Audio will be that of the Main Picture

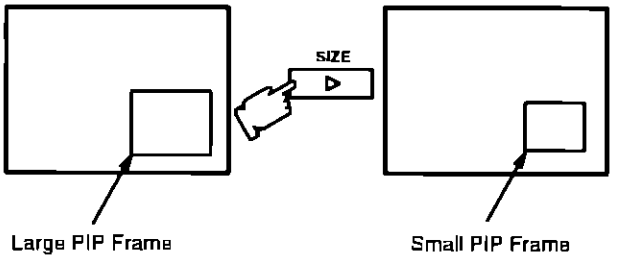
Freeze Button – Press the FREEZE button to stop action in the PIP frame



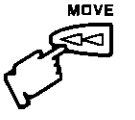
NOTES.

- Pressing the FREEZE button when the PIP frame is not displayed will stop action in the Main Picture and display it on 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

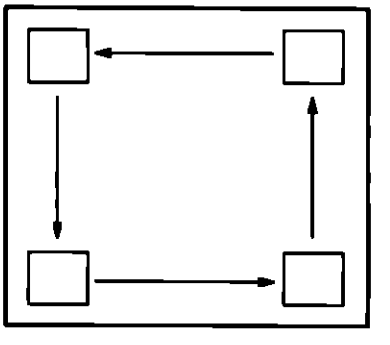
Size Button – Press the SIZE button (when the PIP frame is displayed) to choose either the large or small PIP frame



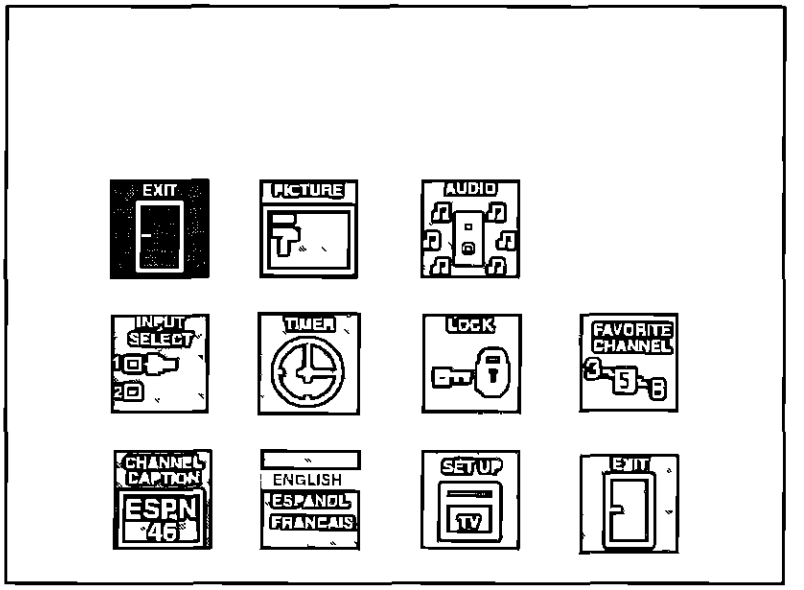
Move Button – The PIP frame may be located at any corner of the Main Picture by pressing the PIP MOVE button (when the PIP frame is displayed)



NOTE: Each time MOVE button is pressed (when the PIP frame is displayed), the PIP frame will move (counterclockwise) as illustrated



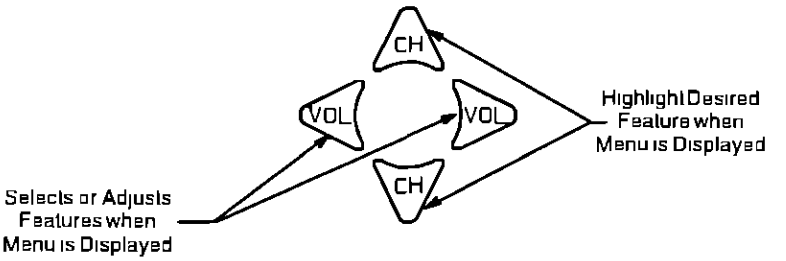
Main Menu (Trilingual Animated Icons)



NOTE: Only the selected Icon will be animated

Located On Remote Control

Displays and Exits Menus

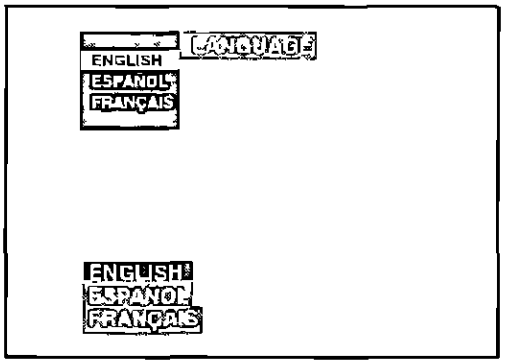


1 Press the ACTION button to display the Main Menu with Icons
2 Press the CH UP/DOWN and the VOL LEFT/RIGHT buttons to select the desired Icon when the Main Menu is displayed (selected Icon will be indicated in Red)
3 Press the VOL buttons for left and right movement and the CH buttons for up or down movement
4 To exit the Main Menu first select the EXIT Icon, then press the ACTION button

Language Menu

The LANGUAGE MENU is factory set to ENGLISH Follow these instructions to change the Language Menu to SPANISH or FRENCH and back to ENGLISH.

1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Language ENGLISH/ESPAÑOL (Spanish)/FRANCAIS (French) Icon
3 Press the ACTION button to display the Language select Menu

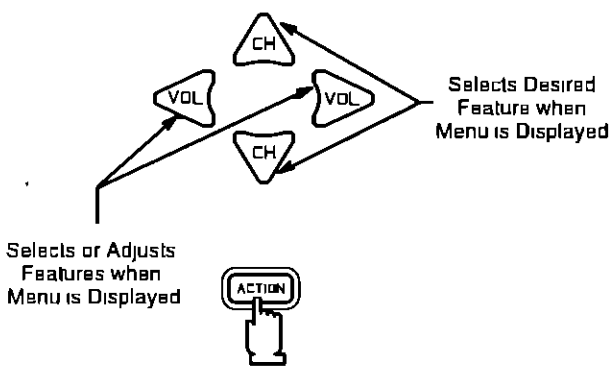


4 Press the CH UP/DOWN button to select ENGLISH, SPANISH, or FRENCH for the Language Menu
5 Press ACTION button twice to exit menus

Picture Adjustments

- Picture Norm
- Color
- Tint
- Brightness
- Picture
- Sharpness
- Color Temp (Temperature)
- Auto Color
- Video NR

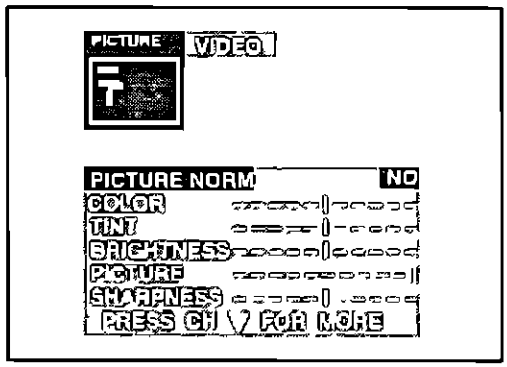
Located On Remote Control



Displays and Exits Menus

Picture Norm – This feature is used to reset Color, Tint, Brightness, Picture and Sharpness adjustments back to a factory preset level

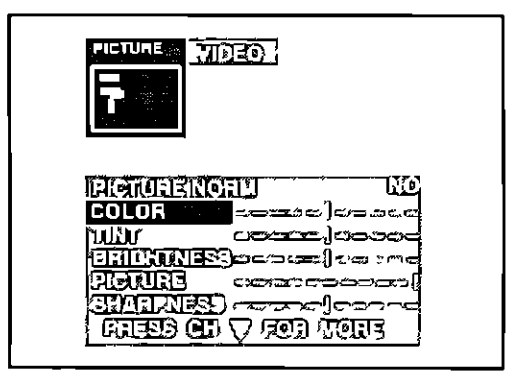
1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Picture Icon
3 Press the ACTION button to display the Picture Adjustment Menu



4 Press the CH UP/DOWN button to highlight "PICTURE NORM"
5 Press the VOL LEFT/RIGHT button to select SET to Normalize Color, Tint, Brightness, Picture and Sharpness
6 Press ACTION button twice to exit menus

Color, Tint, Brightness, Picture and Sharpness Adjustments

1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Picture Icon
3 Press the ACTION button to display the Picture Adjustment Menu



4 Press the CH UP/DOWN button to select the desired Picture Adjustment (Color, Tint, Brightness, Picture or Sharpness)
5 Press the VOL LEFT/RIGHT button 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 button twice to exit menus

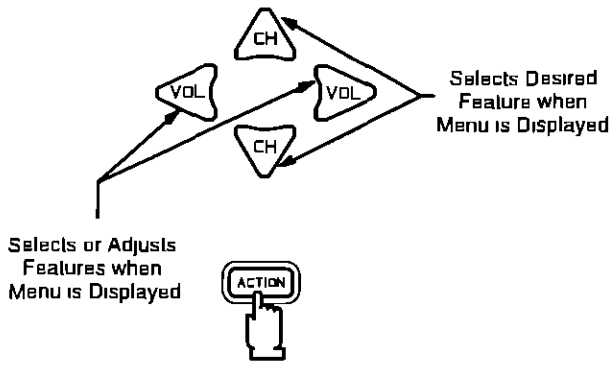
Helpful Hints:

PICTURE ADJUSTMENTS

COLOR – adjust for desired color intensity
TINT – adjust for natural flesh tones
BRIGHTNESS – adjust so dark areas of picture slightly become black for a crisp detail
PICTURE – adjust the white areas of the picture as desired
SHARPNESS – adjust for best clarity of outline detail

Picture Adjustment (cont.)

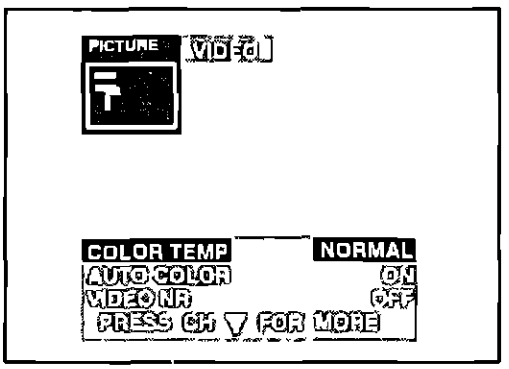
Located On Remote Control



Displays and Exits Menus

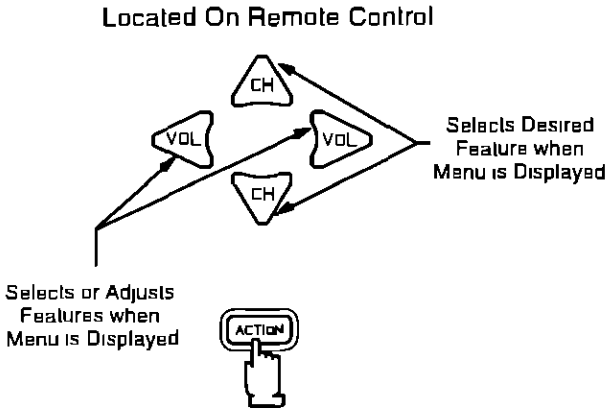
Color Temp (Temperature) – This feature selects 3 options for the pictures temperature NORMAL (no tint) WARM (reddish tint) or COOL (bluish tint)

1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Picture Icon
3 Press the ACTION button to display the Picture Adjustment Menu



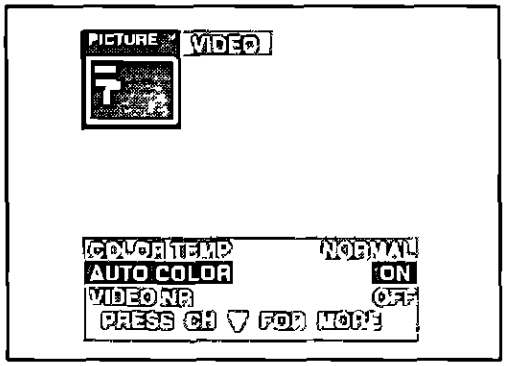
4 Press the CH UP/DOWN button to highlight COLOR TEMP
5 Press the VOL LEFT/RIGHT button to select NORMAL, WARM, or COOL
6 Press ACTION button twice to exit menus

Picture Adjustment (cont.)



Auto Color – This feature automatically optimizes color adjustment to compensate for signal variations

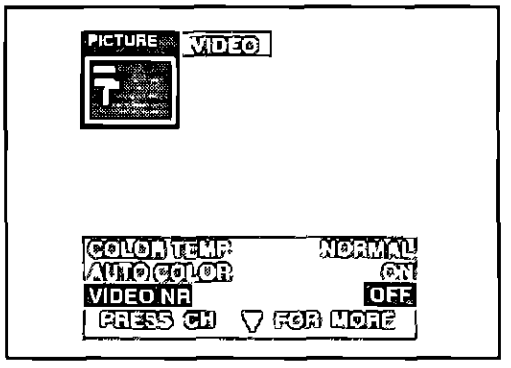
1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Picture Icon
3 Press the ACTION button to display the Picture Adjustment Menu



4 Press the CH UP/DOWN button to highlight AUTO COLOR
5 Press the VOL LEFT/RIGHT button to turn Auto Color feature ON or OFF
6 Press ACTION button twice to exit menus

Video NR (Noise Reduction) – This feature reduces video noise (snow in picture) due to weak signal

1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Picture Icon
3 Press the ACTION button to display the Picture Adjustment Menu

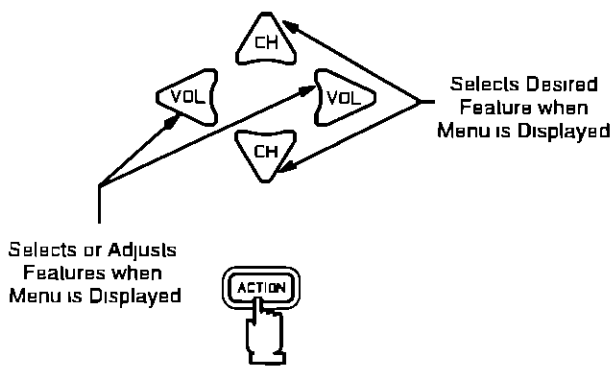


4 Press the CH UP/DOWN button to highlight VIDEO NR (Noise Reduction)
5 Press the VOL LEFT/RIGHT button to turn Video NR feature ON or OFF
6 Press ACTION button twice to exit menus

Audio Adjustment

- Audio Norm
- Bass
- Treble
- Balance
- Audio Mode
- [TV] Speaker
- Surround
- AI Sound

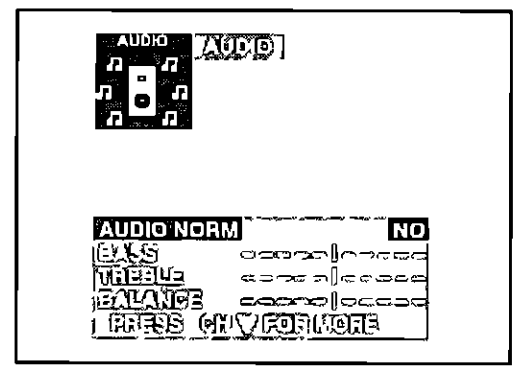
Located On Remote Control



Displays and Exits Menus

Audio Norm – This feature is used to reset BASS, TREBLE and BALANCE back to a factory preset level

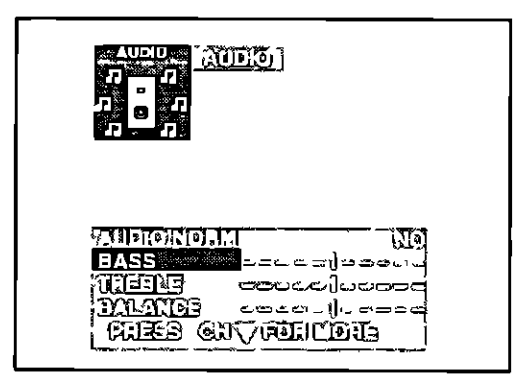
1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Audio Icon
3 Press the ACTION button to display the Audio Adjustment Menu



4 Press the CH UP/DOWN button to highlight AUDIO NORM
5 Press the VOL LEFT/RIGHT button to select "SET" to Normalize Bass, Treble, and Balance
6 Press ACTION button twice to exit menus

Bass, Treble, and Balance – Before setting Bass or Treble select the desired mode of AI Sound (ON or OFF) Bass and Treble Adjustments may require re-adjustment when changing between AI Sound ON or OFF

1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Audio Icon
3 Press the ACTION button to display the Audio Adjustment Menu



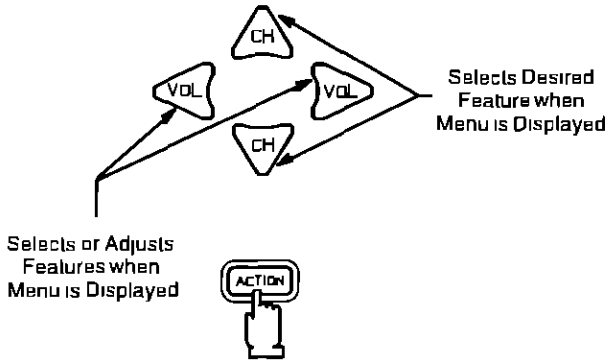
4 Press the CH UP/DOWN button to highlight BASS, TREBLE, or BALANCE
5 Press the VOL LEFT/RIGHT button to adjust for desired audio response
6 Repeat steps 4 and 5 for remaining Audio functions
7 Press ACTION button twice to exit menus

Helpful Hints:

BASS – To increase or decrease Bass response
TREBLE – To increase or decrease Treble response
BALANCE – To emphasize Left or Right Speaker volume

Audio Adjustments (cont.)

Located On Remote Control

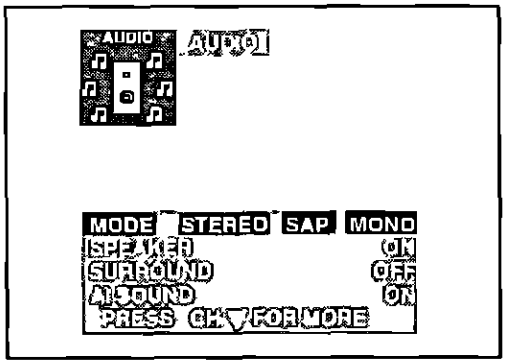


Displays and Exits Menus

Mode – Stereo/SAP/Mono

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 indicated in red

1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Audio Icon
3 Press the ACTION button to display the Audio Adjustment Menu



4 Press the CH UP/DOWN button to highlight MODE
5 Press the VOL LEFT/RIGHT button to select STEREO, SAP (Second Audio Programming) or MONO The selected mode will be highlighted
6 Press ACTION button twice to exit menus

Helpful Hints:

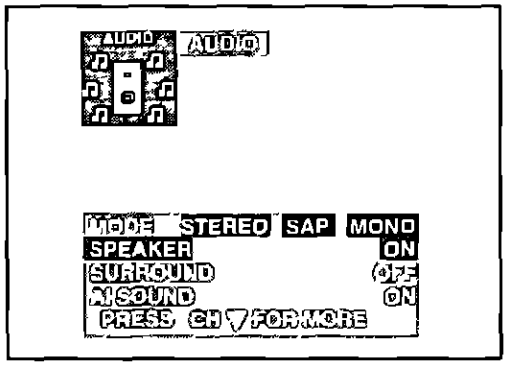
STEREO – Two channel Audio reception

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

MONO – Use when stereo signal is weak

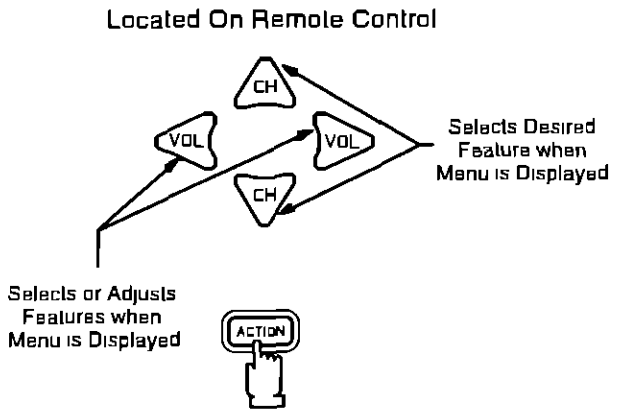
[TV] Speaker – This feature is used to turn the internal speakers "ON" or "OFF" It is used when the Receiver is connected to an External Audio Amplifier (Refer to "To Audio Amp" Connection section for further information)

1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to select the Audio Icon
3 Press the ACTION button to display the Audio Adjustment Menu



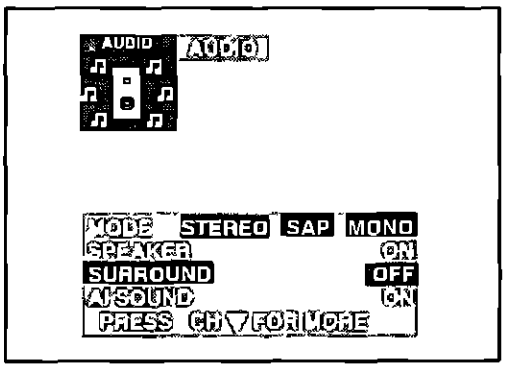
4 Press the CH UP/DOWN button to highlight SPEAKER
5 Press the VOL LEFT/RIGHT button to select ON, OFF&VAO or OFF&FAO
   - **ON** – TV SPEAKERS operate normally
   - **OFF&VAO** (Variable Audio Output) – TV SPEAKERS off, the sound output varies according to the TV volume, use the TV remote to control the volume, muting, bass, treble and balance of the External Stereo 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 ACTION button twice to exit menus

Audio Adjustments (cont.)



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

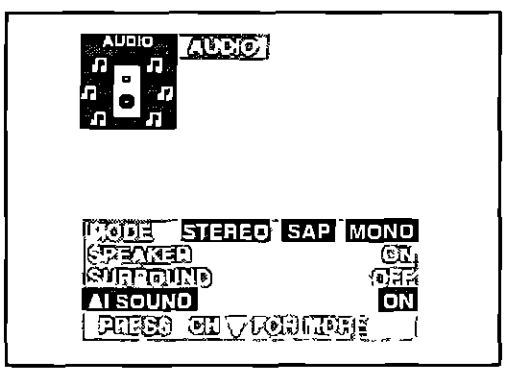
1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Audio Icon
3 Press the ACTION button to display the Audio Adjustment Menu



4 Press the CH UP/DOWN button to highlight SURROUND
5 Press the VOL LEFT/RIGHT button to select SURROUND ON or OFF
6 Press ACTION button twice to exit menus

AI Sound – This feature is used to regulate the volume between program and commercial audio to maintain a constant sound output level

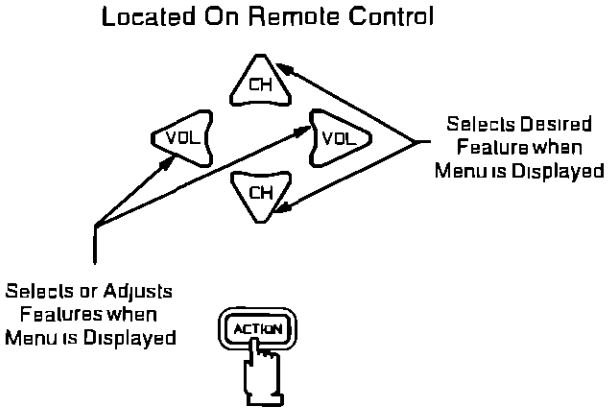
1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Audio Icon
3 Press the ACTION button to display the the Audio Adjustment Menu



4 Press the CH UP/DOWN button to highlight AI SOUND
5 Press the VOL LEFT/RIGHT button to select AI SOUND ON or OFF
6 Press ACTION button twice to exit menus

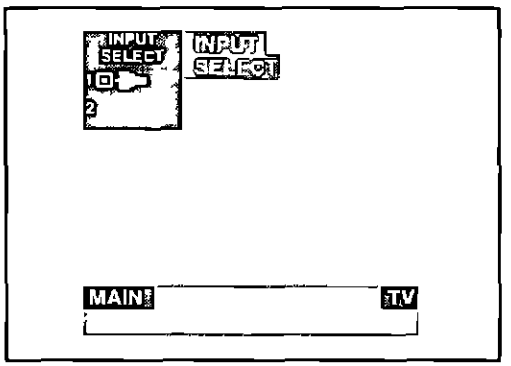
Input Select

- Main Picture Input Selection
- PIP (Picture in Picture) Input Selection (When the PIP frame is displayed)



Main (Picture) Input Selection – This feature is used to select TV Mode Operation or one of three Video Inputs for the Main Picture (used with optional accessory Video equipment)

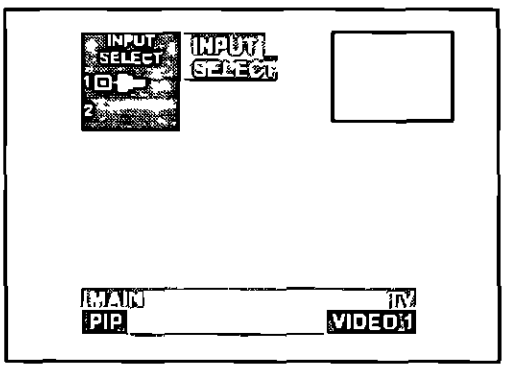
1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Input Select Icon
3 Press the ACTION button to display the Input Select Menu



4 Press the VOL LEFT or RIGHT button to select TV, Video 1, Video 2, or Video 3 for Main Picture Input
5 Press ACTION button twice to exit menus

PIP Input Selection – This feature is used to select TV Mode Operation or one of three Video Inputs for the PIP (Picture in Picture) frame when the PIP frame is displayed (used with optional accessory Video equipment)

1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Input Select Icon
3 Press the ACTION button to display the Input Select Menu

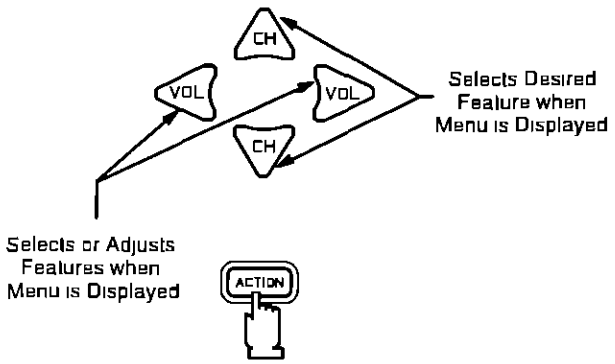


4 Press the CH UP/DOWN button (when the PIP frame is displayed) to highlight "PIP"
5 Press the VOL LEFT/RIGHT button to select TV, Video 1, Video 2, or Video 3 for the PIP frame Input
6 Press ACTION button twice to exit menus

Timer Feature

- Sleep Timer
- (Dual Program) Timer

Located On Remote Control

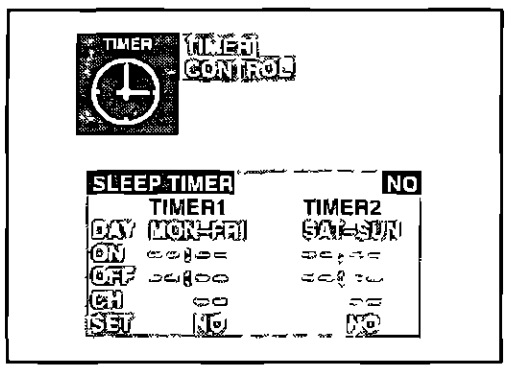


Displays and Exits Menus

Sleep Timer – This feature is used for automatic turn OFF in 30, 60, or 90 minutes as desired

NOTE: Display will flash 3, 2, and 1 to indicate the last three remaining minutes prior to turn OFF To deactivate, press the LEFT/RIGHT button until "NO" is displayed

1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Timer Icon
3 Press the ACTION button to display the Timer Control Menu



4 Press the VOL RIGHT button to select 30, 60, or 90 (minutes) for Sleep Timer to be activated
5 Press ACTION button twice to exit menus

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

Timer Feature (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 also cancel the automatic **OFF** feature

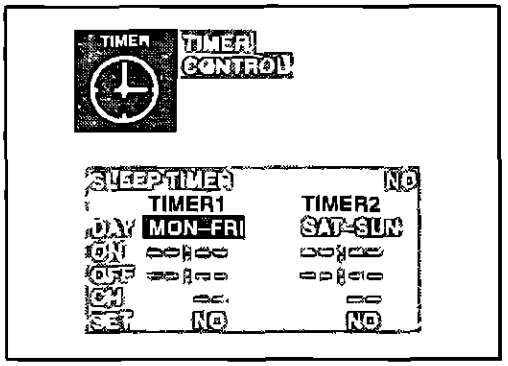
(Program) Timer – The (Dual Program) Timer feature is capable of turning the TV on to a desired channel and then turning the set OFF at a predetermined time

NOTE: The clock and day must be set for this feature to operate (Refer to Set Up Menu to Set Time and Day)

1 Press the ACTION button to display the Main Menu

2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Timer Icon

3 Press the ACTION button to display the Timer Control Menu



4 Press the CH UP/DOWN button to highlight the TIMER 1 or TIMER 2 setting

- Day or days you wish the Timer to activate
- **ON** (time) – hours and minutes
- **OFF** (time) – hours and minutes
- **CH** – channel you want tuned when the ON Timer activates
- **SET** – NO (Timer feature will not activate)
  – YES (Timer feature will activate)

5 Highlight the Timer 1 Day/Days option

6 Press the VOL LEFT/RIGHT button to set the day or days you wish the Receiver to turn ON

The options for setting day are (MON–FRI), (SAT–SUN), (DAILY), (SUN), (MON), (TUE), (WED), (THR), (FRI), (SAT), (EVR SUN), (EVR MON), (EVR TUE), (EVR WED), (EVR THR), (EVR FRI), (EVR SAT)

7 Press the CH DOWN button to highlight the ON (Hours/Minutes) position

8 Press the VOL LEFT/RIGHT button to set the time you wish the Receiver to turn ON

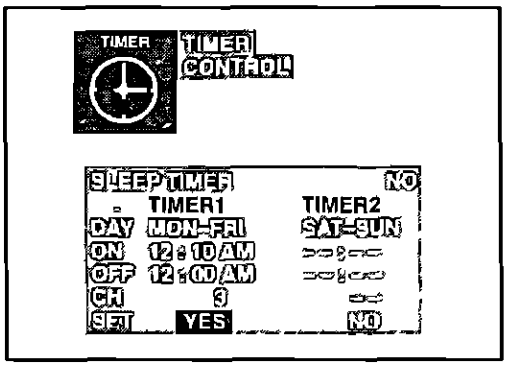
9 Press the CH DOWN button to highlight the OFF (Hours/Minutes) position

10 Press the VOL LEFT/RIGHT button to set the time you wish the Receiver to turn OFF

11 Press the CH DOWN button to highlight the CH position

12 Press the VOL LEFT/RIGHT button to select a channel (from Program Channel Memory) that you want to be tuned to when the set turns ON

13 Press the CH DOWN button to highlight the SET position



14 Press the VOL RIGHT button to activate or LEFT button to deactivate Timer 1

- YES=Feature is activated
- NO=Feature is not activated

15 Press the CH DOWN button to set Timer 2 (if desired) Follow Steps 6 through 14

16 Press ACTION button twice to exit menus

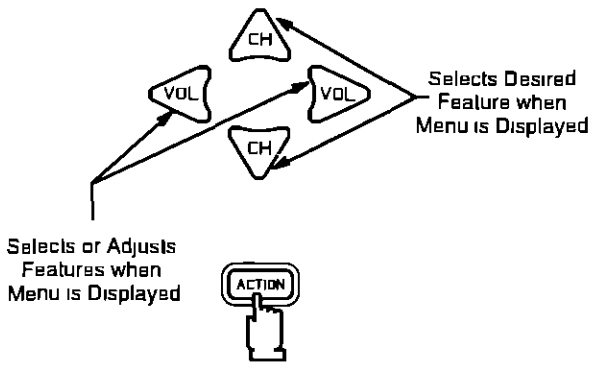
Helpful Hints:

- The Program Timer overrides the Sleep Timer
- Program Timer can only access channels in Program Channel Memory
- "Set Time First" will appear on screen when trying to set Timer Day Option without the clock being set
- If the Program Timer "ON" functions while the set is operating the set will automatically tune to the channel designated in the Program Timer

Lockout Features

- Game Lockout
- Channel Lockout
- All Channels plus Video Inputs Lockout

Located On Remote Control



Displays and Exits Menus

Lockout Mode – This feature allows you to lockout

- **Game** – (Lockout Channels 3 and 4 plus Video Inputs)
- **Channel** – (Lockout up to four (4) Channels)
- **All** – (Lockout All Channels plus Video Inputs)

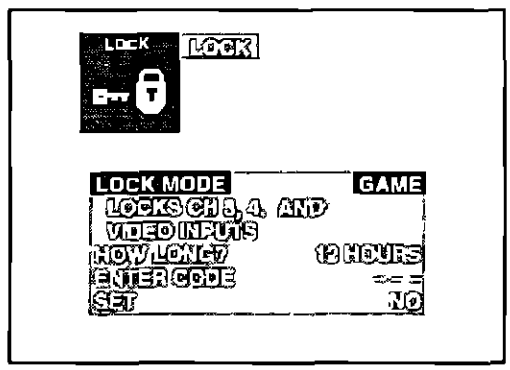
NOTE This feature will Lockout your selection for up to 48 hours Be sure to understand this feature before attempting its use **Use a code that you will easily remember.**

1 Press the ACTION button to display the Main Menu

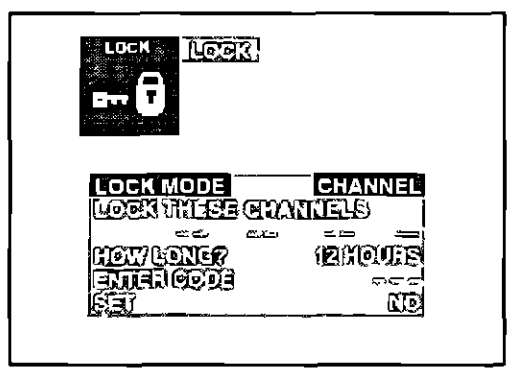
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Lock Icon

3 Press the ACTION button to display the Lock Menu
Note: When the Lockout Menu is displayed, the Game Lock option will be highlighted

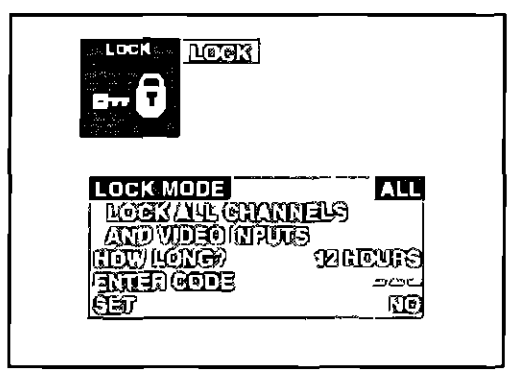
4 Press the VOL LEFT/RIGHT button to select GAME, CH (CHANNEL) or ALL



Game Lockout Menu
(Channels 3 and 4 plus Video Inputs)



Channels Lockout Menu
(up to four (4) Channels)



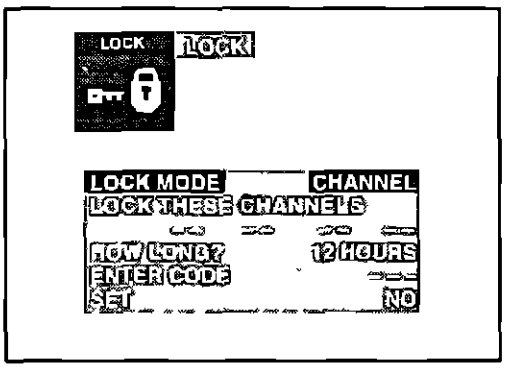
All Lockout Menu
(All Channels plus Video Inputs)

Helpful Hints:

NOTE: If you see a red "PG" in the upper right hand corner the channel or Video mode you have selected has been locked out

Lockout Features (cont.)

NOTE. When the LOCK MODE CHANNEL is selected, perform procedure Steps A through D



Step A
Press the CH DOWN button to highlight "LOCK THESE CHANNELS"

Step B
Then use the Remote Control Keyboard to select a channel you desire to lockout

Step C
Press the CH DOWN button to select next Channel position

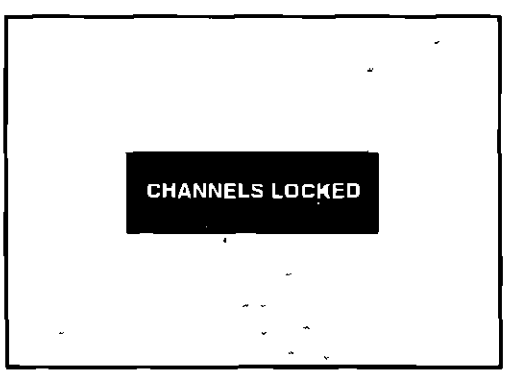
Step D
Then repeat Step B and C until desired Channels are locked out (up to four (4) Channels)

5 Press the CH DOWN button to highlight "HOW MANY HOURS"

6 Press the VOL LEFT/RIGHT buttons to select 12, 24, or 48 (hours lockout time)

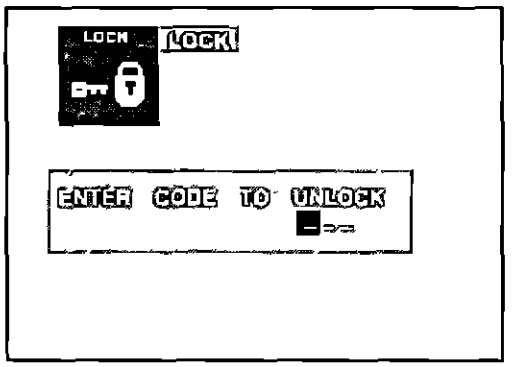
7 Press the CH DOWN button to highlight "ENTER CODE" then enter a 3-digit code by using the Remote Control Keypad **IMPORTANT NOTE. Use a code you can easily remember.**

8 Press the VOL RIGHT button to select "YES" for Lock feature to be activated "CHANNELS LOCKED" will display On Screen

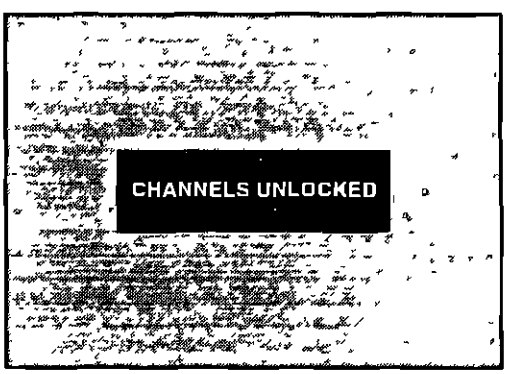


Lock Feature Activated

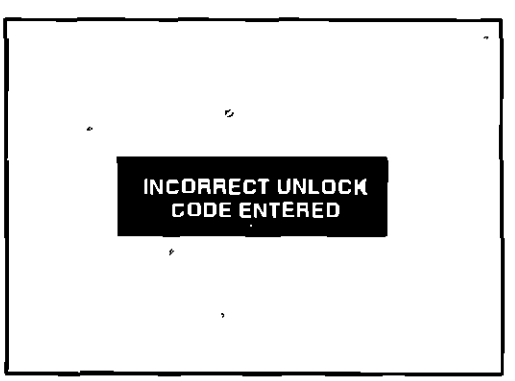
Unlock – Follow Steps 1 through 3 from previous page and enter same 3-digit code as in Step 7 Channel Unlocked display will appear



ENTER SAME 3-DIGIT CODE



IF 3-DIGIT CODE IS THE SAME

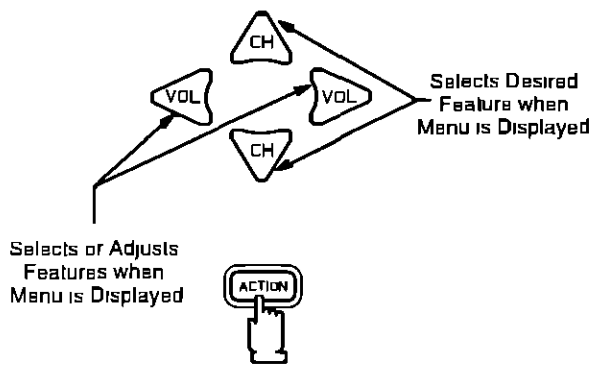


IF 3-DIGIT CODE IS NOT THE SAME

Favorite Channel Feature

- Chan (Channel) Scan All/Fav
- Fav CH Select

Located On Remote Control

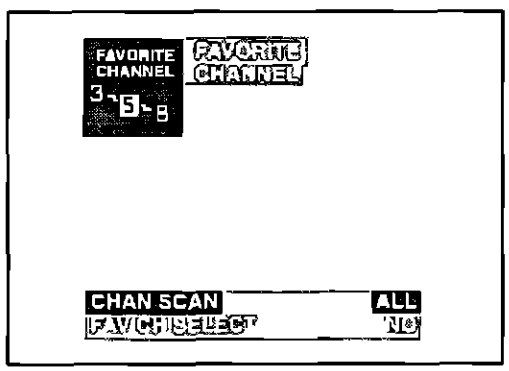


Displays and Exits Menus

Channel Scan – This feature is use to select which Channels will be accessed when using CH UP/DOWN buttons, ALL or FAV (Favorite) Channels

NOTE. Channels must be programmed into Favorite Channel Select Memory first

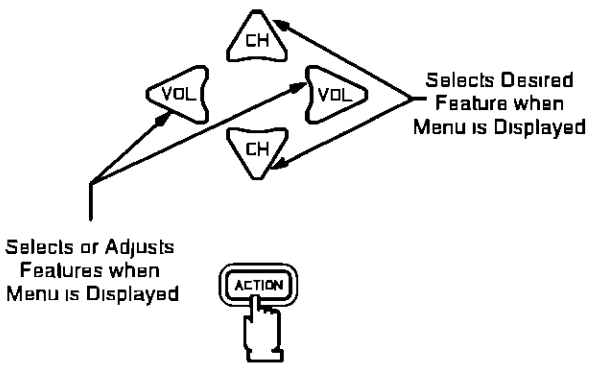
1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Favorite Channel Icon
3 Press the ACTION button to display the Favorite Channel Menu



4 Press the CH UP/DOWN to highlight CHAN SCAN
5 Press the VOL LEFT/RIGHT button to select ALL or FAV (Favorite)
   - **ALL** – The CH UP/DOWN buttons will access all channels in Channel Memory
   - **FAV** – The CH UP/DOWN buttons will only access channels in Favorite Channel Select Memory
6 Press ACTION button twice to exit menus

Favorite Channel Feature (cont.)

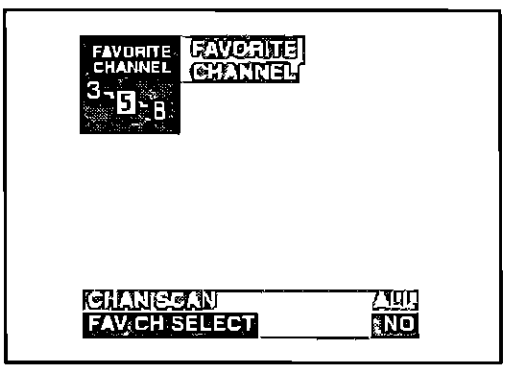
Located On Remote Control



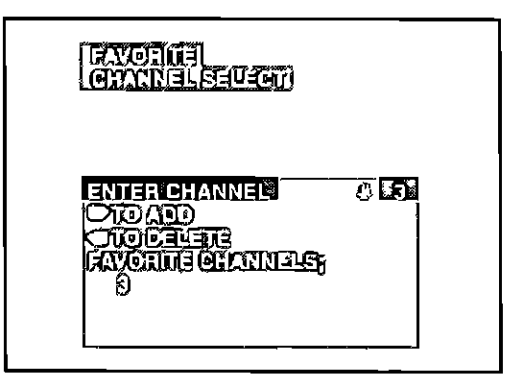
Displays and Exits Menus

Favorite Channel Select – The Favorite Channel Programming feature allows you to program up to 15 of your favorite channels You can use the CH buttons on the Remote Control to scan channels without going through channels you don't normally view

1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Favorite Channel Icon
3 Press the ACTION button to display the Favorite Channel Menu



4 Press the CH UP/DOWN button to highlight CHAN SCAN Then, press the VOL LEFT/RIGHT button to select FAV option for Favorite Channels setting
5 Press the CH UP/DOWN button to highlight "FAV CH SELECT"
6 Press the VOL LEFT/RIGHT button to display the Favorite Channel Select Menu



7 Enter the channel number you wish to add or delete from Favorite Channel Memory (using the Remote Keyboard or CH UP/DOWN buttons)
8 Press the VOL RIGHT button to add or press the LEFT button to delete channel(s) from Favorite Channel Memory
9 Repeat Steps 6 and 7 to continue adding or deleting channels (up to 15 channels may be stored in Favorite Channel Memory)

NOTE: When your desired channels have been programmed, press the ACTION button twice to return to your selected program

10 Press the CH UP/DOWN button to scan thru the Favorite Channels you programmed

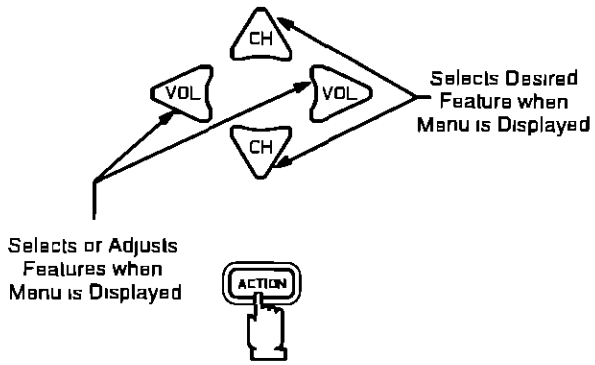
Helpful Hints:

After Auto Channel Programming has completed, the first 15 channels selected (or less depending on existing channels in memory) will automatically be added to Favorite Channel memory

Channel Caption Features

- Preset Caption
- Manual Caption

Located On Remote Control



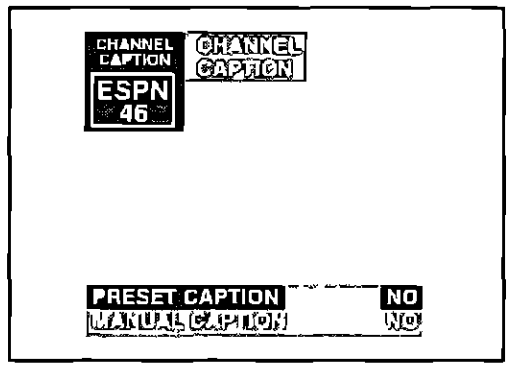
Displays and Exits Menus

Preset Caption – This feature allows you to select from 56 preset captions, and assign corresponding channel numbers utilized in your area Captions are easily assigned to the channel numbers you select by following the simple steps outlined below

1 Press the ACTION button to display the Main Menu

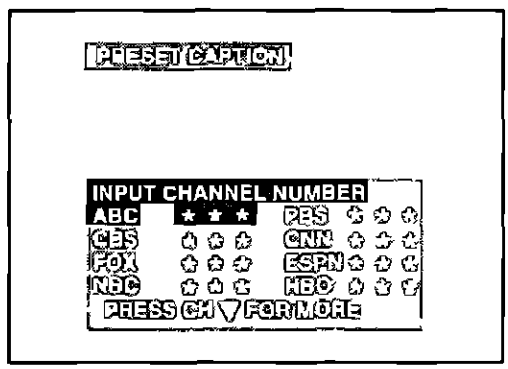
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Channel Caption Icon

3 Press the ACTION button to display the Channel Caption Menu

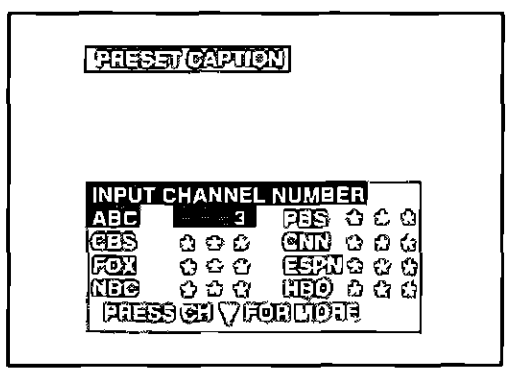


4 Press the CH UP/DOWN button to highlight PRESET CAPTION

5 Press the VOL LEFT/RIGHT button to display the Preset Caption Menu



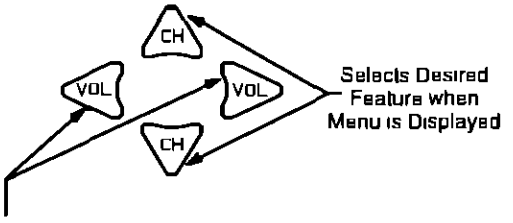
6 Use the Remote Control keyboard, to assign the channel number to the Channel Caption in your area (Refer to your local TV guide)

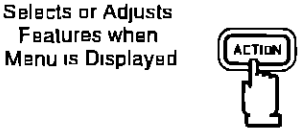


7 Press the CH DOWN button to select a different Preset Caption, then repeat step 6 until all desired Preset Captions have an assigned channel number

Channel Caption Features (cont.)

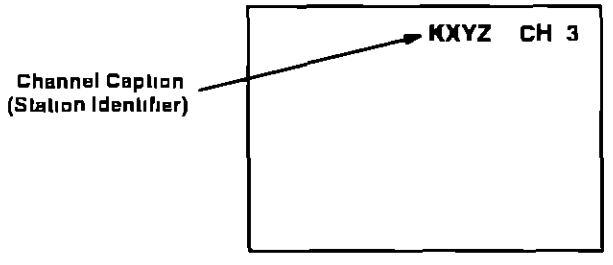
Located On Remote Control



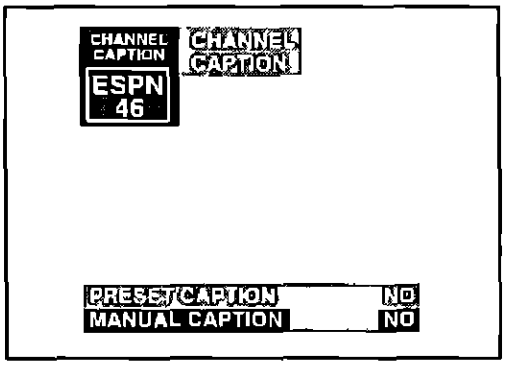


Displays and Exits Menus

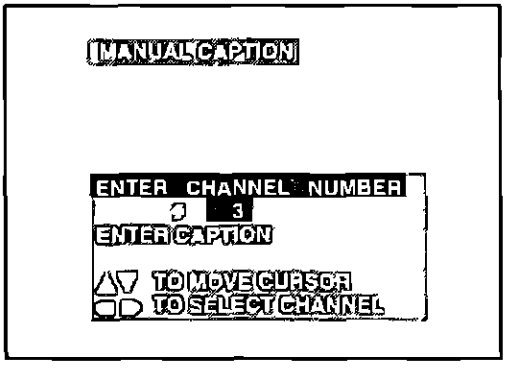
Manual Caption – The Channel Caption (Station Identifier) allows you to input the call names of up to 30 stations into memory (using up to four (4) characters) The call name will then display, along with the channel number when changing channels or pressing RECALL



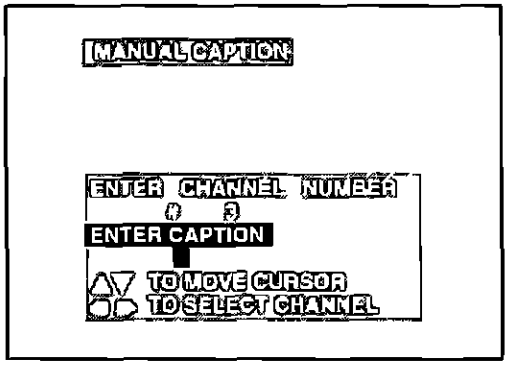
1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Channel Caption Icon
3 Press the ACTION button to display the Channel Caption Menu



4 Press the CH UP/DOWN button to highlight MANUAL CAPTION
5 Press the VOL LEFT/RIGHT button to display the MANUAL CAPTION menu

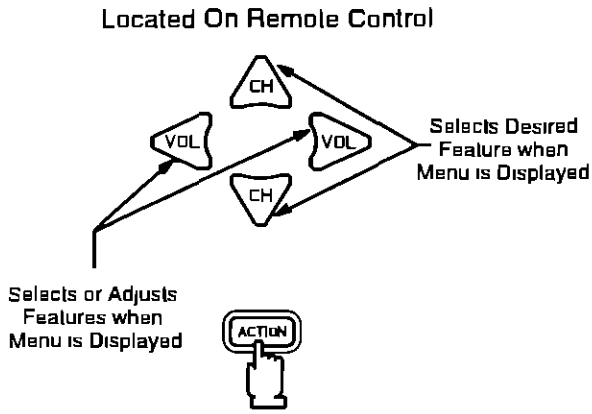


6 Use the Remote Control Keypad or VOL LEFT/RIGHT buttons to enter channel number your wish to assign a channel caption (STATION IDENTIFIER)
7 Press the CH DOWN button to highlight ENTER CAPTION



8 Press the VOL LEFT/RIGHT button to select first character in channel caption (STATION IDENTIFIER)
9 Press the CH DOWN button to move to second character position, and repeat steps 8 and 9 until the complete caption is entered (up to four (4) characters)
10 Press the CH UP/DOWN button repeatedly to highlight ENTER CHANNEL NUMBER Then repeat steps 6 through 10 to continue adding channel caption (STATION IDENTIFIERS)
11 Press ACTION button three times to exit menus

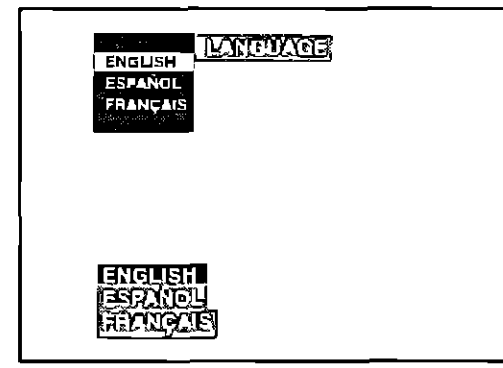
Trilingual Menu Selection



Language Selection (English/Spanish/French)

The Language Menu is factory set to ENGLISH Follow these instructions to change the Language Menu to Spanish or French and back to English

1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Language ENGLISH / ESPAÑOL (Spanish) / FRANÇAIS (French) Icon
3 Press the ACTION button to display the LANGUAGE select Menu

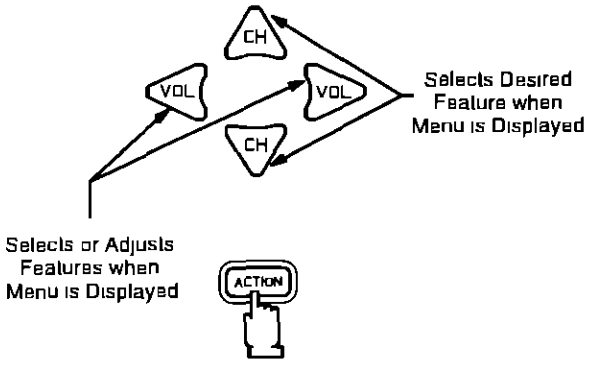


4 Press the CH UP/DOWN button to select ENGLISH, SPANISH, or FRENCH for the Language Menu
5 Press ACTION button twice to exit menus

Set-Up Features

- Clock (Auto)
- Clock (Manual)
- Set Time
- Set Day
- Mode (TV or Cable)
- Auto Program
- Manual Program
- CC On Mute
- CC Mode

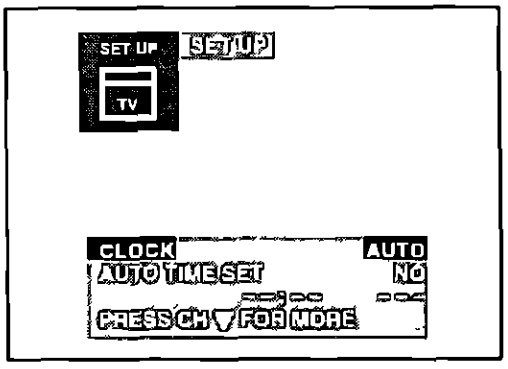
Located On Remote Control



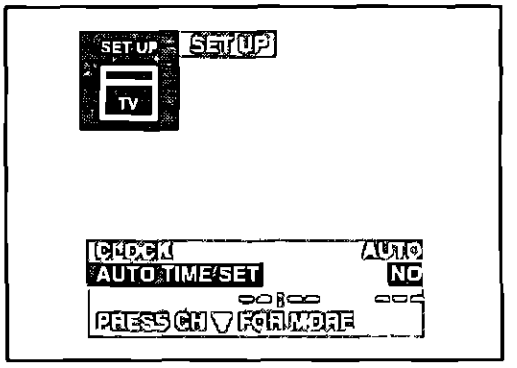
Clock (Auto) — This feature automatically adjusts the TV clock to the correct time whenever the TV is tuned to a PBS (Public Broadcasting Service) station for 10 minutes or until the correct time and day are displayed (Refer to your local TV guide for PBS channel number)

NOTE: There is a plus or minus one-hour offset that can be programmed to adjust the clock should there be a time zone difference between the PBS TV station and the viewer

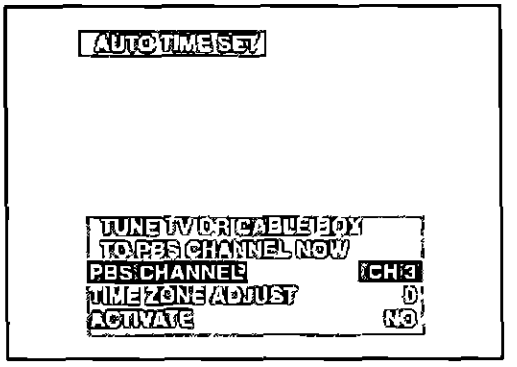
1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Set Up Icon
3 Press the ACTION button to display the Set Up Menu



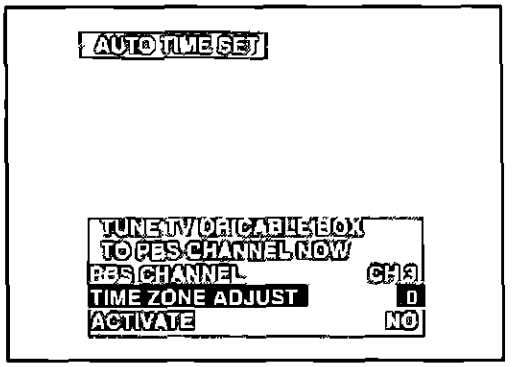
4 Press the CH UP/DOWN button to highlight CLOCK
5 Press the VOL LEFT/RIGHT button to select AUTO (if necessary)
6 Press the CH DOWN button to highlight AUTO TIME SET



7 Press the VOL LEFT/RIGHT button to display the AUTO TIME SET Menu
8 Press the CH UP button to highlight PBS CHANNEL

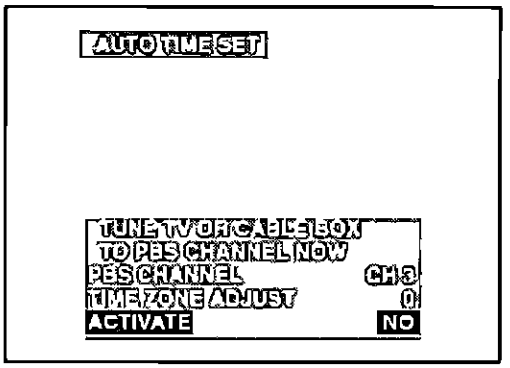


9 Tune TV or Cable Box to PBS channel, using the Remote Control Keypad to enter PBS channel number
10 Press the CH DOWN button to highlight TIME ZONE ADJUST

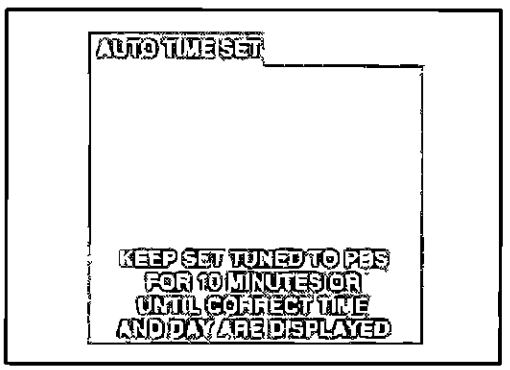


11 Press the VOL LEFT button for minus one-hour offset or the VOL RIGHT button for plus one-hour offset (if necessary)
12 Press the CH DOWN button to highlight ACTIVATE

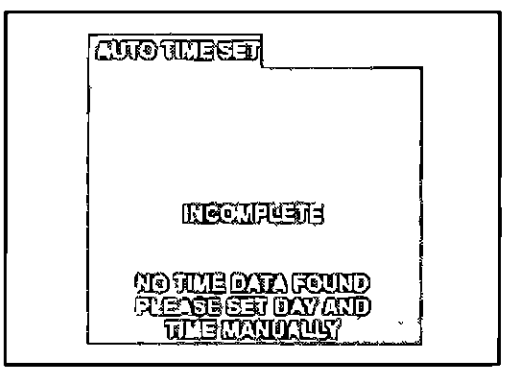
Set-Up Features
(Clock Auto – cont.)



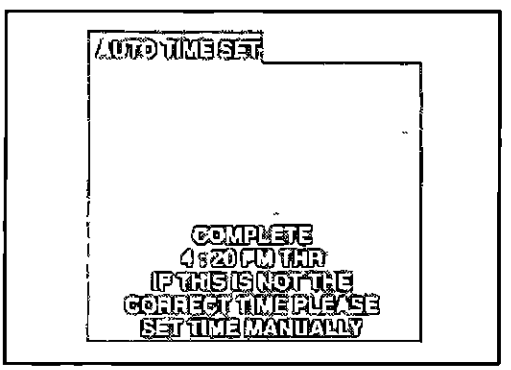
13 Press the VOL LEFT/RIGHT button to display the AUTO TIME SET ACTIVATE Menu



WAITING FOR CORRECT TIME AND DAY



INCOMPLETE READ MENU

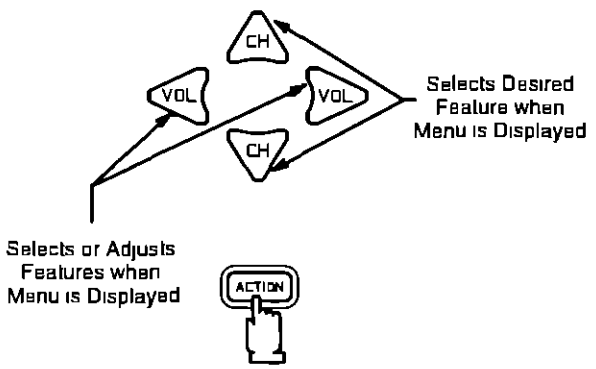


COMPLETED READ MENU

14 Press ACTION button four times to exit menus

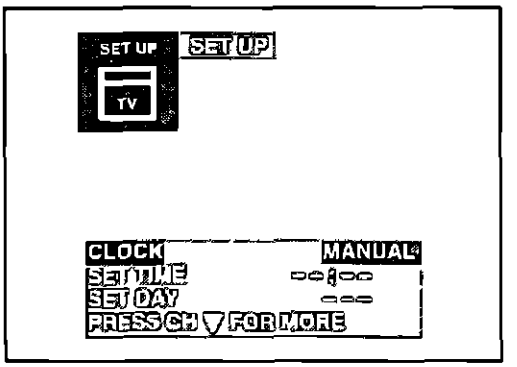
Set-Up Features (cont.)

Located On Remote Control

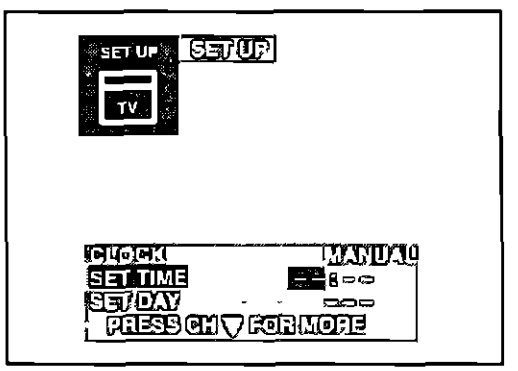


Clock (Manual) – Clock (when set) will display On Screen at initial turn on, after a channel change and when pressing Recall button It must be set in order to operate the dual Timer feature

1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Set Up Icon
3 Press the ACTION button to display the Set Up Menu



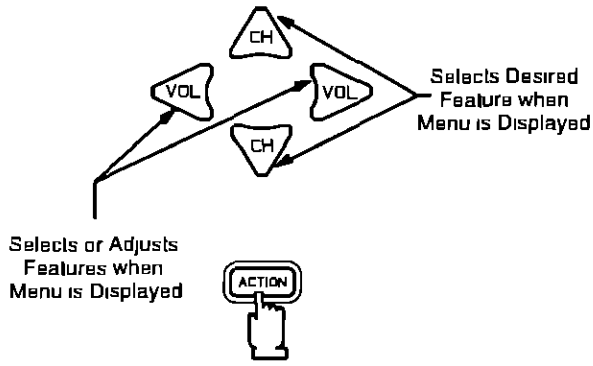
4 Press the CH UP/DOWN button to highlight CLOCK
5 Press the VOL LEFT/RIGHT button to select MANUAL
6 Press the CH UP/DOWN button to highlight SET TIME



7 Press the VOL LEFT/RIGHT button to Set Hours (set AM/PM accordingly)
8 Press the CH DOWN button to highlight minutes position
9 Press the VOL LEFT/RIGHT button to set minutes
10 Press ACTION button twice to exit menus

Set-Up Features (cont.)

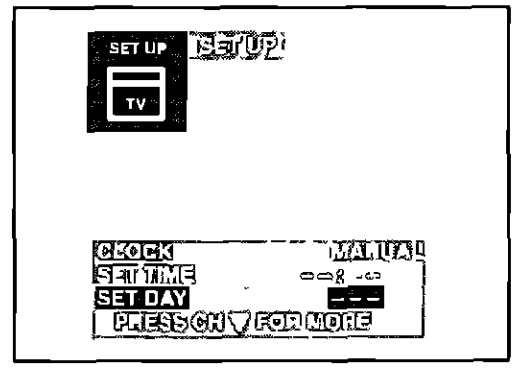
Located On Remote Control



Displays and Exits Menus

Set Day – The day of the week must be set in order to operate the Dual Timer feature

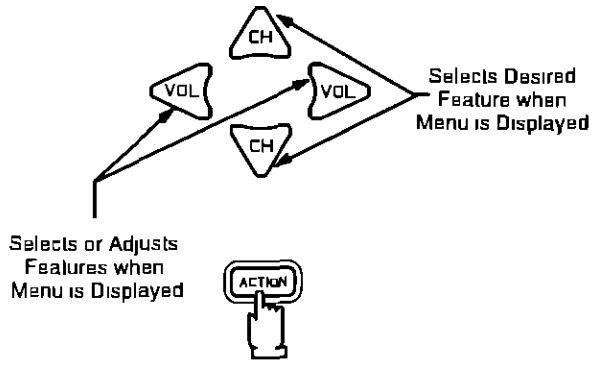
1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT button to highlight the Set Up Icon
3 Press the ACTION button to display the Set Up Menu



4 Press the CH UP/DOWN button to highlight SET DAY
5 Press the VOL LEFT/RIGHT button to select proper day of the week
6 Press ACTION button twice to exit menus

Set-Up Features (cont.)

Located On Remote Control



Displays and Exits Menus

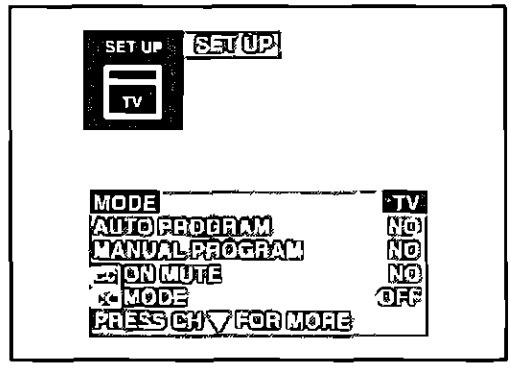
Mode (TV or Cable)

IMPORTANT NOTE: The proper input mode must be selected for the type of signal at the antenna input

- TV 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 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)

NOTE: Some Cable TV Systems encode (scramble) program material on specific channels A cable company supplied decoder is required to reproduce an acceptable picture Certain Cable TV Systems offset some channels to reduce interference It will be necessary to use the cable company supplied converter to receive these specific channels

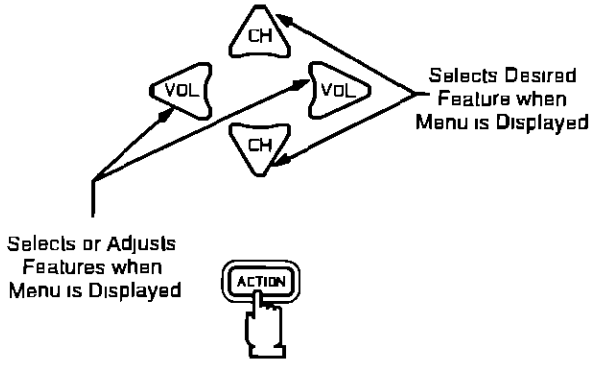
1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Set Up Icon
3 Press the ACTION button to display the Set Up Menu



4 Press the CH UP/DOWN button to highlight Mode
5 Press the VOL LEFT/RIGHT button to select TV or CABLE
6 Press ACTION button twice to exit menus

Set-Up Features (cont.)

Located On Remote Control

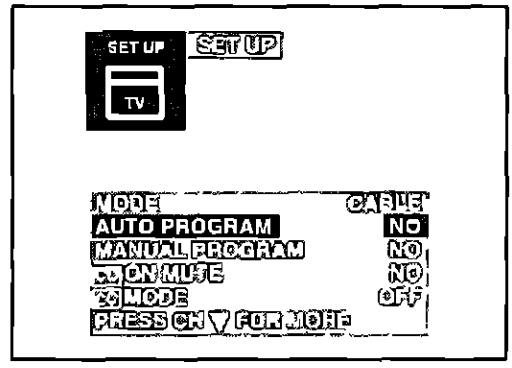


Displays and Exits Menus

Auto Program – The Auto Programming feature allows you to place all channels with a video signal into Channel Scan Memory When you press the CHANNEL UP/DOWN button, only those channels with a video signal will be accessed

NOTE: TV or Cable Tuning mode must be set properly for your system

1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT button to highlight the Set Up Icon
3 Press the ACTION button to display the Set Up Menu



4 Press the CH UP/DOWN button to highlight AUTO PROGRAM
5 Press the VOL LEFT/RIGHT button to start Auto Programming Scan Channels will automatically advance until all channels have been scanned
Note. Channel numbers with video signal present will turn blue which indicates stored in Channel Scan Memory
6 Press ACTION button twice to exit menus

NOTE: Some channels with very weak signals may be locked into memory These must be deleted manually using the Manual Program feature

Helpful Hints:

After Auto Programming:

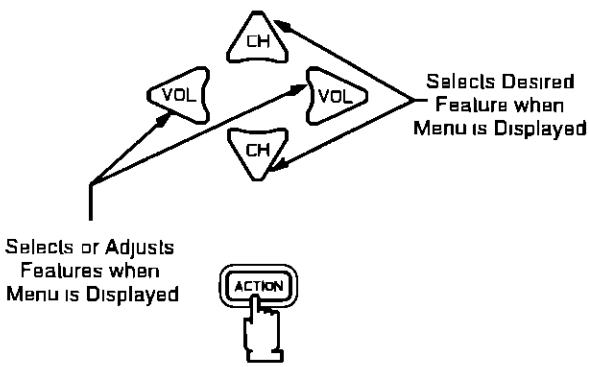
Blue channel number indicates channel is in Channel Scan Memory

All channels are available by direct access using the Keyboard numbers "0 through 9"

After Auto Programming Scan has completed, up to 15 channels will be programmed into the FAVORITE Channel Scan if space is available Any original channels that were programmed into FAV CHANNEL will remain (Refer to Favorite Channel Scan for deleting unwanted channels)

Set-Up Features (cont.)

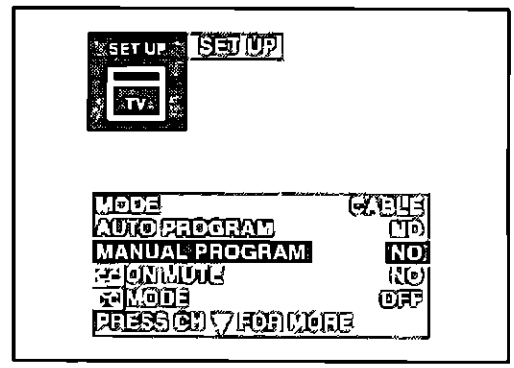
Located On Remote Control



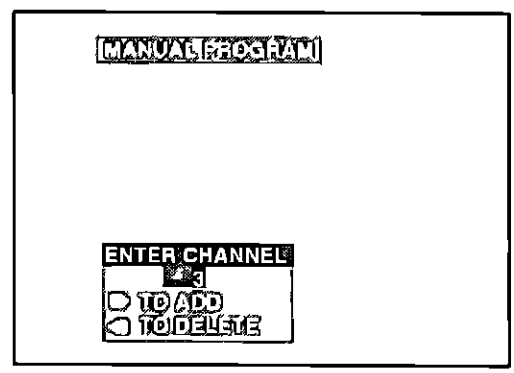
Displays and Exits Menus

Manual Program – This feature allows you to select which channels are placed into Channel Scan Memory so when you press the CHANNEL UP/DOWN button only those channels you desire will be accessed

1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Set Up Icon
3 Press the ACTION button to display the Set Up Menu



4 Press the CH UP/DOWN button to highlight MANUAL PROGRAM
5 Press the VOL LEFT/RIGHT button to display Manual Programming Menu

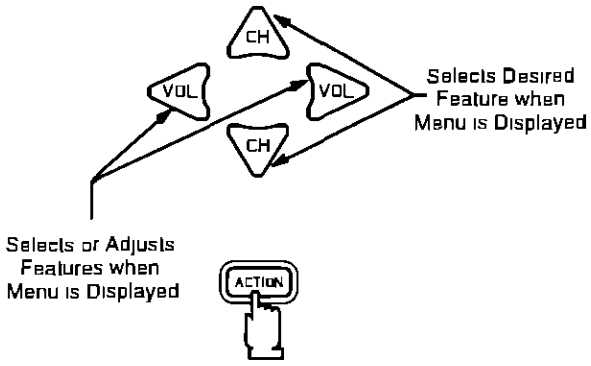


6 Use the Remote Control Keypad (0 through 9 buttons) or CH UP/DOWN buttons to select channels
7 Press the VOL RIGHT button to add channel(s) to memory (blue) Press the VOL LEFT button to delete channel(s) from memory (yellow)
8 Repeat Steps 6 and 7 to continue adding or deleting channels
9 Press ACTION button twice to exit menus

NOTE Some channels with very weak signals may be locked into memory These must be deleted manually using the Manual Program feature

Set-Up Features (cont.)

Located On Remote Control

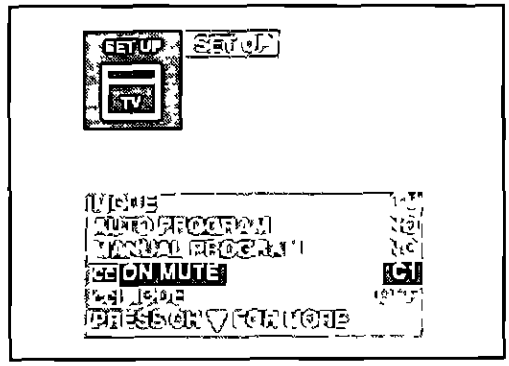


Displays and Exits Menus

CC On Mute – Activates the On-Screen Closed Caption feature when the MUTE button on the Remote Control is pressed To deactivate press the MUTE button again

NOTE: This feature only functions when the Close Caption Mode is in the "OFF" position The program being viewed must be broadcast with Closed Caption (Refer to your local TV guide)

1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Set Up Icon
3 Press the ACTION button to display the Set Up Menu



4 Press the CH UP/DOWN button to highlight CC ON MUTE
5 Press the VOL LEFT/RIGHT button to select NO (OFF), C1, C2, C3 or C4

Recommended Set Up for Closed Caption when using Mute Button

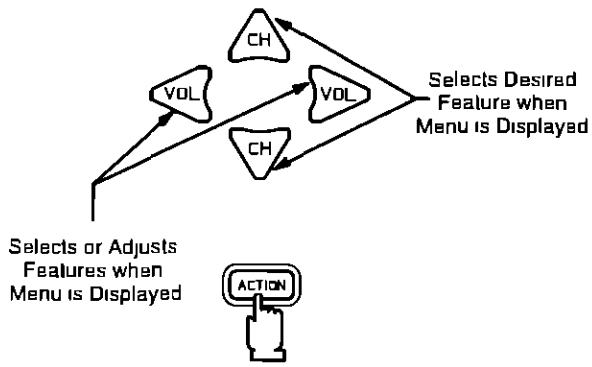
- CC ON MUTE C1
- CC MODE OFF

6 Press ACTION button twice to exit menus
7 Press the MUTE button when the program being viewed is broadcast with Closed Caption to activate

Note: Press the mute button again to deactivate

Set-Up Features (cont.)

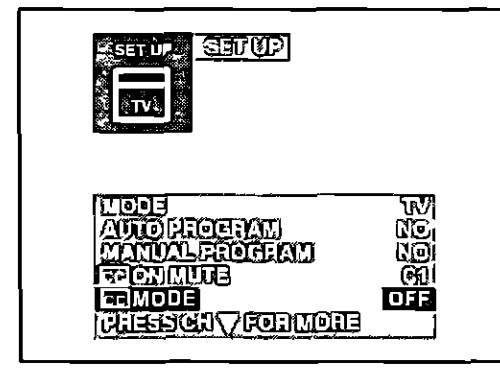
Located On Remote Control



Displays and Exits Menus

CC 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

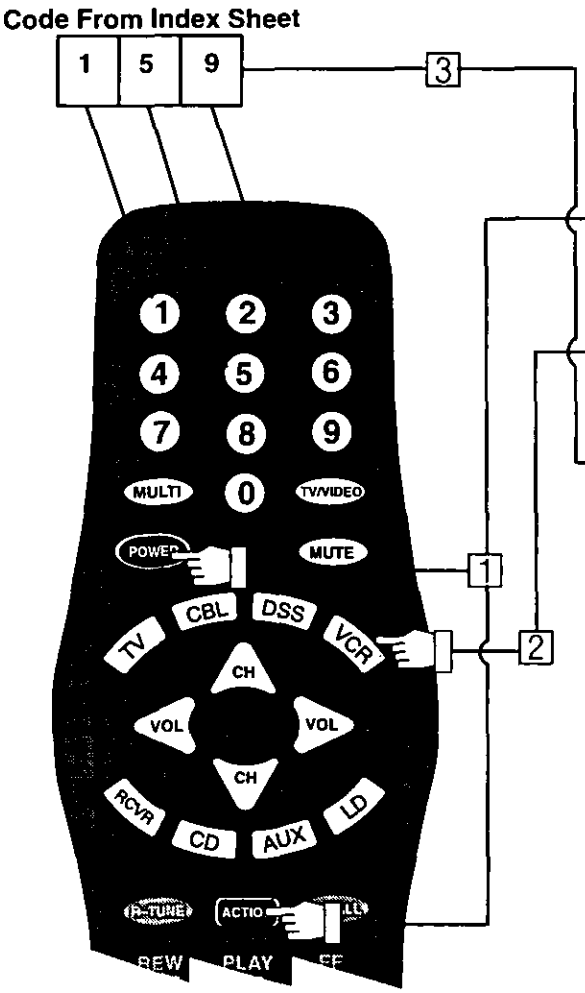
1 Press the ACTION button to display the Main Menu
2 Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the Set Up Icon
3 Press the ACTION button to display the Set Up Menu



4 Press the CH UP/DOWN button to highlight CC MODE
5 Press the VOL LEFT/RIGHT button to select OFF, C1,C2, T1, T2, C3, C4, T3, or T4
   - **CAPTION OFF** – Recommended mode when Closed Caption is not being used
   - **CAPTION C1** – For video related information that can be displayed (up to four (4) lines of script strategically placed on the television screen so that it does not obstruct relevant parts of the picture) Script can be in any language
   - **CAPTION C2** – Another mode used for video related information
   - **TEXT T1** – Blanks out a large portion of the picture on the television screen, and displays program guide or any other information currently being transmitted
   - **TEXT T2** – Another mode which displays information and blanks out a large portion of the picture on the television screen
   - **CAPTION C3** – Another mode used for video related information
   - **CAPTION C4** – Another mode used for video related information
   - **TEXT T3** – Another mode which displays information and blanks out a large portion of the picture on the television screen
   - **TEXT T4** – Another mode which displays information and blanks out a large portion of the picture on the television screen
6 Press ACTION button twice to exit menus

Programming the Illuminated Remote Control Using Access Codes

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



Procedure – Code Known

Procedure for setting up the remote using the numerical buttons.

- ❑ Determine brand of device.
- ❑ Identify code(s) associated with the brand in the infrared code index (located in this manual on pages 45 thru 48). Record all possible codes.
- ❑ Confirm the device is plugged in and operating properly.

1 **Press and hold the ACTION button, then the POWER button so that both are pressed at the same time for at least 5 seconds. All of the Mode buttons will flash.**

2 **Press the desired Mode button. That Mode button will illuminate steadily. All other buttons will go out.**

3 **Enter the three digit code, by using the Remote Control Keypad "0 through 9" buttons.**

- ❑ If you entered a valid code, the mode key will blink twice then go out.

Now your remote is set for this code.

4 **Press POWER to test your device.**

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

- ❑ If you enter an unlisted code, or if you do not complete your entry within 30 seconds, the mode key illumination will go out and 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.**

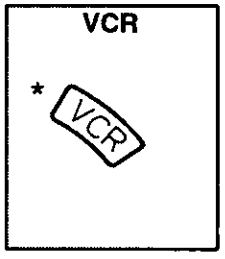
CABLE Cable TV Converter Box	**VCR** Video Cassette Recorder	**CD** Compact Disc Player
DSS Digital Satellite System	**RCVR** Receiver or Amplifier	**LD** Laser Disc Player
Other Component	Other Component	Other Component
Other Component	Other Component	Other Component

VCR Infrared Codes Index

The Universal Infrared Remote Control is capable of operating many brands of VCRs Refer to page 44 for programming 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 (*) To operate the Remote VCR function buttons, refer to pages 12 and 13 for Remote Control Key Functions



Code Index For VCRs

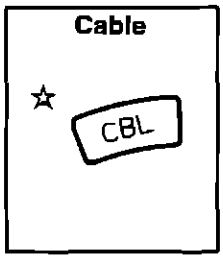
VCR Brand	Code(s)	VCR Brand	Code(s)
Adventura	000	MTC	000, 240
Aiko	278	Multitech	000, 072
Aiwa	000	NEC	038, 041, 067
Akai	041, 061	Nikko	037
American High	035	Noblex	240
Asha	240	Olympus	035
Audiovox	037	Optimus	037, 048, 104
Beaumark	240	Panasonic	035, 162, 225, 454
Bell & Howell	104	Penney	035, 037, 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 page 44 for programming 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

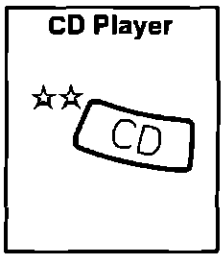
NOTE: After entering the proper infrared code, press the Remote **CBL** Selection Mode button (☆) To operate the Remote Cable function buttons, refer to pages 12 and 13 for Remote Control Key Functions



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
Daa 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
Memorex	000	Toshiba	000
Oak	007, 019	Tusa	015
Panasonic	000, 021, 107	Unika	153
Paragon	000	United Artists	007
Philips	153	United Cable	003
		Universal	153
		Zenith	000, 525

NOTE After entering the proper infrared code press the Remote **CD** Selection Mode button (☆☆) To operate the Remote CD Player function buttons, refer to pages 12 and 13 for Remote Control Key Functions



Codes For CD Players

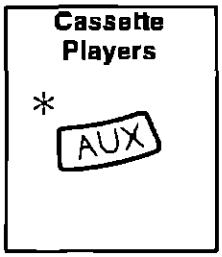
Brand of CD Players	Code(s)	Brand of CD Players	Code(s)
Aiwa	124, 157	Onkyo	101
CA Audio Lab	029	Optimus	000, 032, 037, 305, 426, 468
Carver	157	Panasonic	029, 367
Denon	003	Philips	157
DKK	000	Pioneer	032, 468
Emerson	305	Proton	157
Fisher	048	QED	157
Genexxa	032, 305	Quasar	029
Harman–Kardon	426	RCA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

Cassette Players, Receivers, and Amplifiers Infrared Codes Index

The Universal Infrared Remote Control is capable of operating many brands of Cassette Players, Receivers, or Amplifiers Refer to page 44 for programming procedures

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

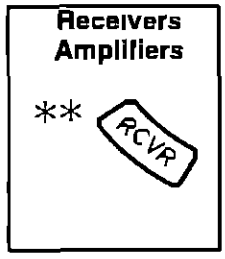
NOTE: After entering the proper infrared code, press the Remote **AUX** Selection Mode button (*) To operate the Remote Cassette Player function buttons, refer to pages 12 and 13 for Remote Control Key Functions



Code Index For Cassette Players

Brand of Cassette Players	Code(s)	Brand of Cassette Players	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 (**) To operate the Remote Receiver or Amplifier function buttons, refer to pages 12 and 13 for Remote Control Key Functions



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	Quasar	039
Denon	004	RCA	531
Fisher	042, 219	Realistic	195
JVC	074	Sansui	189, 321
Kenwood	027, 186	Sanyo	219
Lloyd's	195	Sharp	186
Magnavox	189, 195, 269, 531	Sherwood	502
Marantz	039, 189, 269, 321	Sony	158
MCS	039	Technics	039, 208, 308, 309, 516
Modulaire	195	Victor	074
NAD	320	Wards	013, 014, 042, 080, 158, 189
Nakamichi	321, 347	Yamaha	176, 186, 354
Onkyo	135	York	195
Optimus	013, 080, 186, 219, 300, 531		

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 page 44 for programming procedures

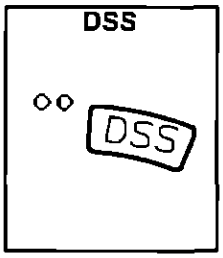
NOTE. The Universal Remote Control memory is limited, therefore, some models of Laser Disc, DSS Digital Satellite System, and DVD (Digital Videodisc) may not operate The Universal Remote Control is not designed to control all features that are available in all models

NOTE: After entering the proper infrared code, press the Remote **LD** Selection Mode button (◇) To operate the Remote Laser Disc function buttons, refer to pages 12 and 13 for Remote Control Key Functions

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 (◇◇) To operate the Remote Satellite function buttons, refer to pages 12 and 13 for Remote Control Key Functions



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 (★) To operate the Remote DVD (Digital Videodisc) function buttons, refer to pages 12 and 13 for Remote Control Key Functions

Codes For DVD (Digital Videodisc)

Brand of DVD	Code(s)
Panasonic	490

Care and Cleaning

Picture Tube (Turn set off)

Use a mild soap solution or window cleaner and a clean cloth DO NOT USE ABRASIVE CLEANERS Avoid excessive moisture and wipe dry

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

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
BLUE PICTURE	NO SOUND	– RECEIVER IN VIDEO MODE WITH NO SIGNAL
NO VIDEO	NOISY SOUND	– CHANNEL LOCKOUT FEATURE ACTIVATED
BLACK BOX IN PICTURE	SOUND	– CC (CLOSED CAPTION) IN TEXT MODE – PUT IN CAPTION OFF MODE TO ELIMINATE BLACK BOX

Should this unit turn ON momentarily and then turn OFF, or fail to operate, unplug the AC cord, and contact your Authorized Servicer for repairs

Power Loss

Prolonged power interruption causes the following features to reset to their factory preset state.

FEATURE	FACTORY PRESET STATE	FEATURE	FACTORY PRESET STATE
POWER	OFF	SLEEP TIMER	NO/OFF
VOLUME	APPROX –1/3	TIMER	NO/OFF
CHANNEL	CH 03	ANTENNA MODE	CABLE
PROGRAM MEMORY	UNPROGRAMMED	TV/VIDEO	TV
VIDEO MENUS	NORMALIZED	NOISE REDUCTION	OFF
AUDIO MENUS	NORMALIZED	PIP FEATURES	OFF
STEREO/SAP/MONO	STEREO	AUTO COLOR	ON
CLOCK	NOT SET	MENU LANGUAGE	ENGLISH

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