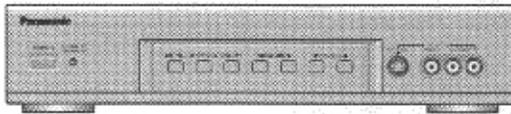
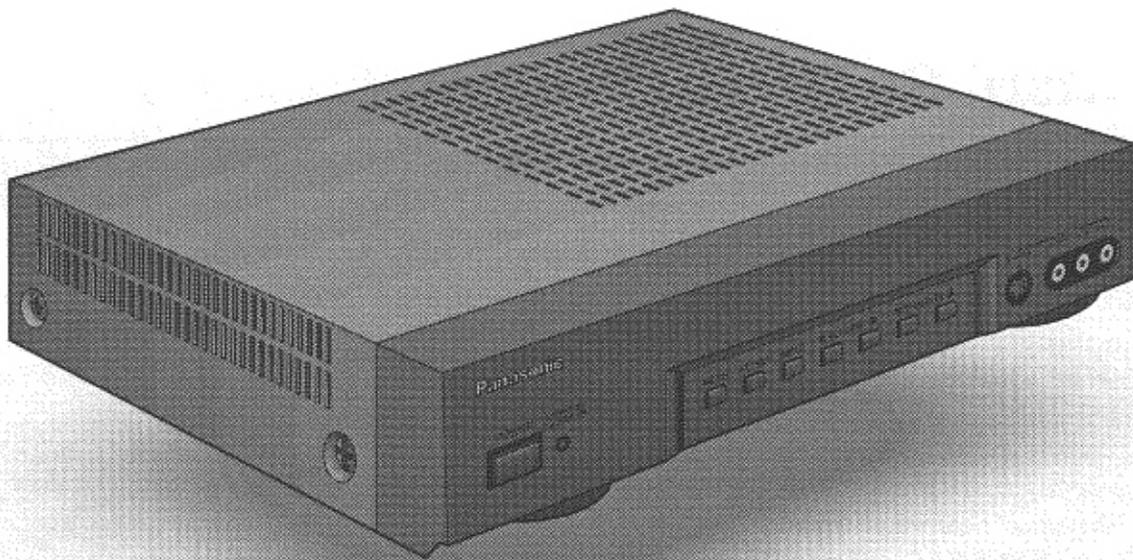


Panasonic®

CONTROLLER / TUNER Operating Instructions



Model No. **TU-PTA500U**

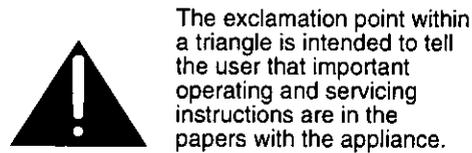
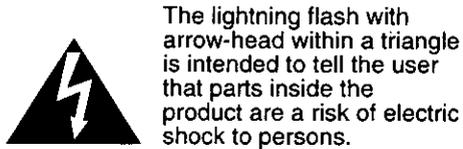
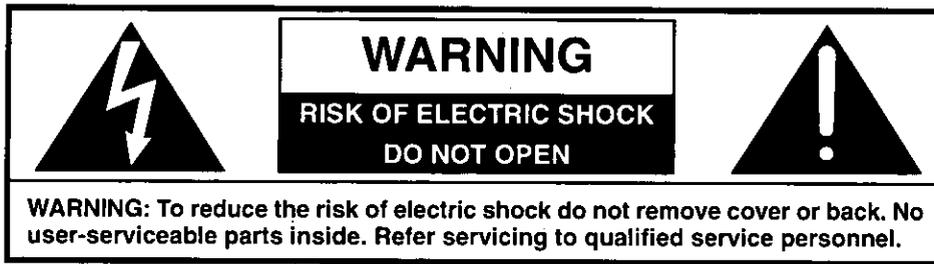


For assistance, please call : 1-888-VIEW-PTV (843-9788)
or send e-mail to : consumerproducts@panasonic.com
or visit us at www.panasonic.co.jp/global/ (U.S.A)

For assistance, please call : 787-750-4300 (Puerto Rico)

For assistance, please call : 1-800-561-5505
or visit us at www.panasonic.co.jp/global/ (Canada)

Before connecting, operating or adjusting this product, please read these instructions completely. Save this manual for future reference.



WARNING: To prevent damage which may result in fire or shock hazard, do not expose this appliance to rain or moisture.
To prevent electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

Important Safety Instructions

Read these instructions

All the safety and operating instructions shall be read before the appliance is operated.

Keep these instructions

The safety and operating instructions shall be retained for future reference.

Heed all warnings

All warnings on the appliance and in the operating instructions shall be adhered to.

Follow all instructions

All operating and use instructions shall be followed.

Water and Moisture

Do not use this product near water - for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, and the like.

Cleaning

Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. There shall be at least **4 inches (10 cm)** of space from those opening.

The openings shall never be blocked by placing the product on a bed, sofa, rug, or other similar surface.

Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

This product shall never be placed near or over a radiator or heat register. This product shall not be placed in a built-in installation such as a rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

Do not defeat the safety purpose of the polarized plug or the grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

Power Sources

This product shall be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company.

Unplug this apparatus during lightning storms or when unused for long period of time.

Important Safety Instructions

Power-Cord Protection

Power-supply cords shall be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

Attachments

Do not use attachments / accessories not recommended by the product manufacturer as they may cause hazards.

This product shall be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company.

Unplug this apparatus during lightning storms or when unused for long period of time.

Accessories

Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart / apparatus combination to avoid injury from tip-over.

Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

Unplug this apparatus during lightning storms or when unused for long periods of time.

This will prevent damages to the product due to Lightning and power-line surges.

Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Overloading

Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.

Object and Liquid Entry

Never push objects of any kind into this product through openings 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 product.

Servicing

Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

Replacement Parts

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

Safety Check

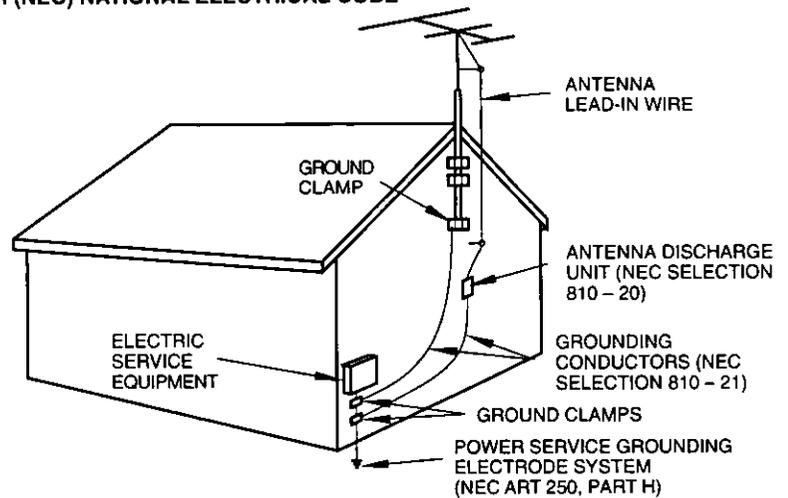
Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

Damage Requiring Service

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

- a. When the power-supply cord or plug is damaged.
- b. If liquid has been spilled, or objects have fallen into the product.
- c. If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
- d. If the product has been dropped or the cabinet has been damaged.

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



Important Safety Instructions

- e. When the product exhibits a distinct change in performance - this indicates a need for service.
- f. If the product has been exposed to rain or water.

Installation

This unit Location

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

Optional External Equipment

The Video / Audio connection between components can be made with shielded video and audio cables. For best performance, video cables should utilize 75 Ω coaxial shielded wire. Cables are available from your dealer or electronic supply house. Before you purchase any cables, be sure you know what type of output and input connectors your various components require. Also determine the length of cable you'll need.

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.

Do not place this unit upside down or in a vertical position.

Do not install and use this unit upside down.

Do not install and use this unit standing on its side.

FCC STATEMENT

Notes:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generated, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Install the CONTROLLER/TUNER at least 15.7 inch (40 cm) away from the Wide Plasma Display to avoid interference.
- Consult the dealer or an experienced radio/TV technician for help.

FCC CAUTION:

Pursuant to 47CFR, Part 15.21 of the FCC rules, any changes or modifications to this device not expressly approved by Matsushita Electric Corporation of America could cause harmful interference and would void the user's authority to operate this device.

Responsible Party:

FCC Declaration of Conformity

TU-PTA500U

Matsushita Electric Corporation of America

One Panasonic Way Secaucus, NJ 07094

1-800-528-8601

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CANADIAN NOTICE:

This Class B digital apparatus complies with Canadian ICES-003.

Dear Panasonic Customer

Welcome to the Panasonic family of customers. We hope that you will have many years of enjoyment from your new Controller / Tuner set.

To obtain maximum benefit from your set, please read these Instructions before making any adjustments, and retain them for future reference.

Retain your purchase receipt also, and note down the model number and serial number of your set in the space provided on the rear cover of these instructions.

For assistance, please call : 1-888-VIEW-PTV (843-9788) or send e-mail to : consumerproducts@panasonic.com or visit us at www.panasonic.co.jp/global/ (U.S.A)
For assistance, please call : 787-750-4300 (Puerto Rico)
For assistance, please call : 1-800-561-5505 or visit us at www.panasonic.co.jp/global/ (Canada)

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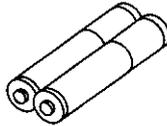
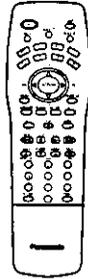
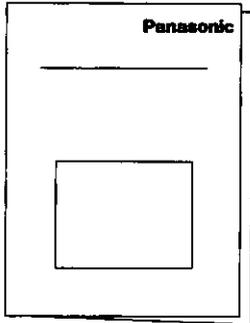
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Installation

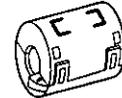
ACCESSORIES

Check the accessories before installations.

- Operating Instruction book TQBC0216
- Remote Control Transmitter EUR511164
- Battery for the Remote Control Transmitter (2 × AA (IEC R6) size)
- Display Cable K1HA26FA0001
- Warranty Card



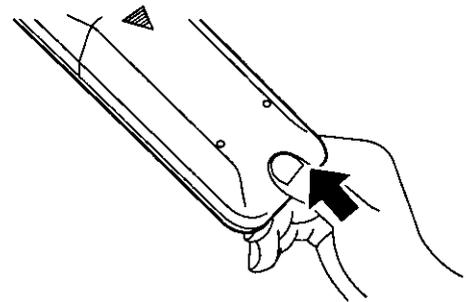
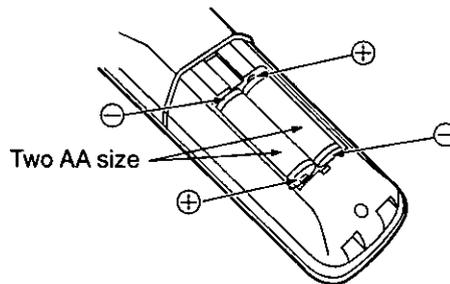
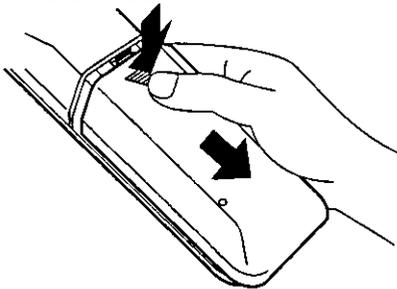
- Ferrite Core TSK1027



Remote control battery installation

Requires two AA batteries.

1. Turn the transmitter face down. Remove top cover by pressing down on marking and sliding cover off in the direction indicated.
2. Install the batteries as shown in the battery compartment. (Polarity + or – must match the markings in the compartment).
3. Replace the cover and slide in reverse until the lock snaps.



Helpful Hint:

For frequent remote control users, replace old battery 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.

⚠ Precaution on battery use

Incorrect installation can cause battery leakage and corrosion that will damage the remote control transmitter.

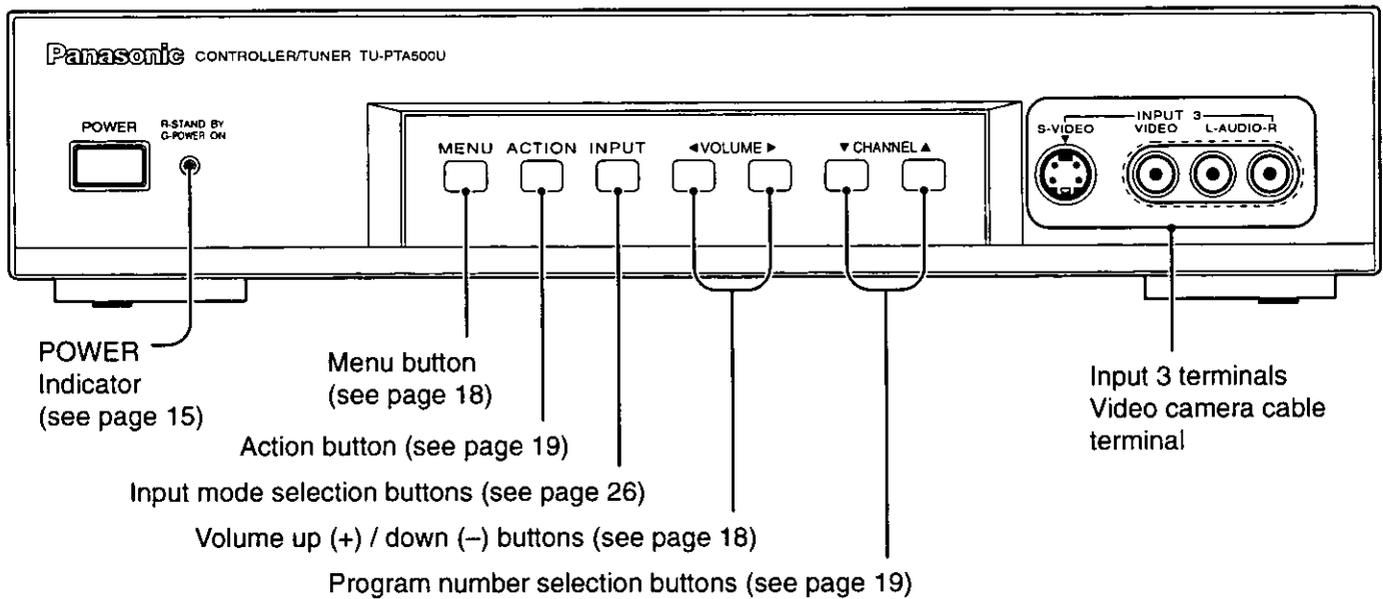
Observe the following precautions:

1. Batteries should always 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 acts sporadically or stops operating this unit.

Helpful Hint:

Whenever you remove the batteries, you may need to reset the remote control infrared codes. We recommend that you record the code on page 54 – 57, prior to setting up the remote.

Controls and terminals on the CONTROLLER / TUNER



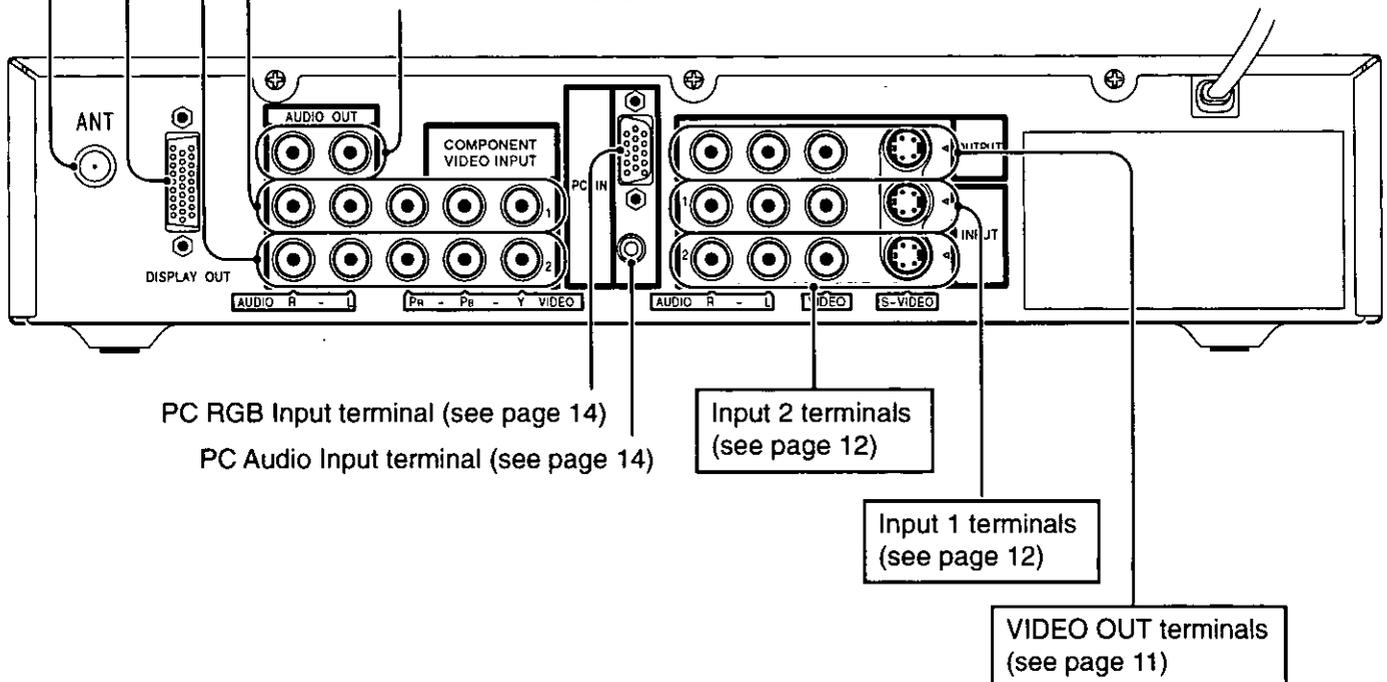
RF Input terminal (see page 8 – 9)

DISPLAY OUT terminal (see page 10)

COMPONENT 2 VIDEO INPUT (see page 13)

COMPONENT 1 VIDEO INPUT (see page 13)

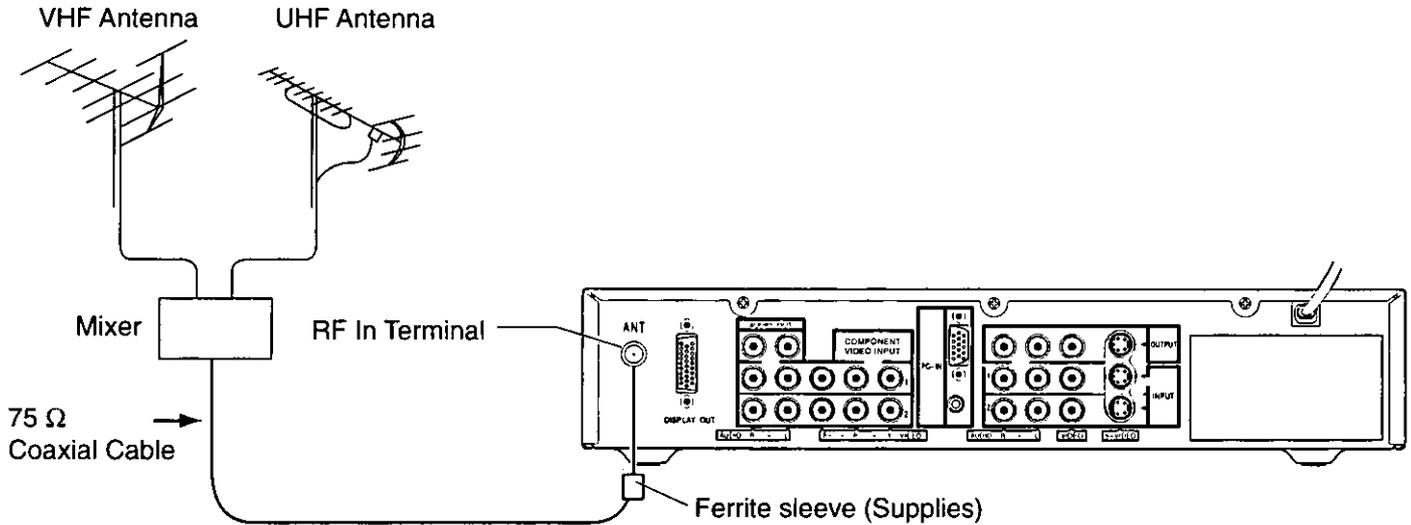
AUDIO OUT (see page 11)



Installation

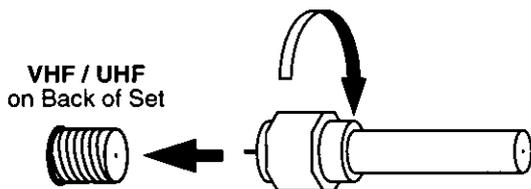
Connecting the antenna cable to the RF In Terminal

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 this unit.



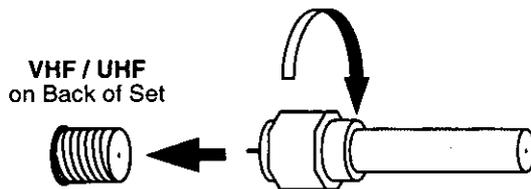
Antenna / cable connection

Incoming Cable From Home Antenna (75 Ω)



Cable Connection - For reception of cable channels (01 – 125) connect the cable supplied by your local cable company. Antenna Mode must be set to CABLE. (Refer to Antenna Mode section.)

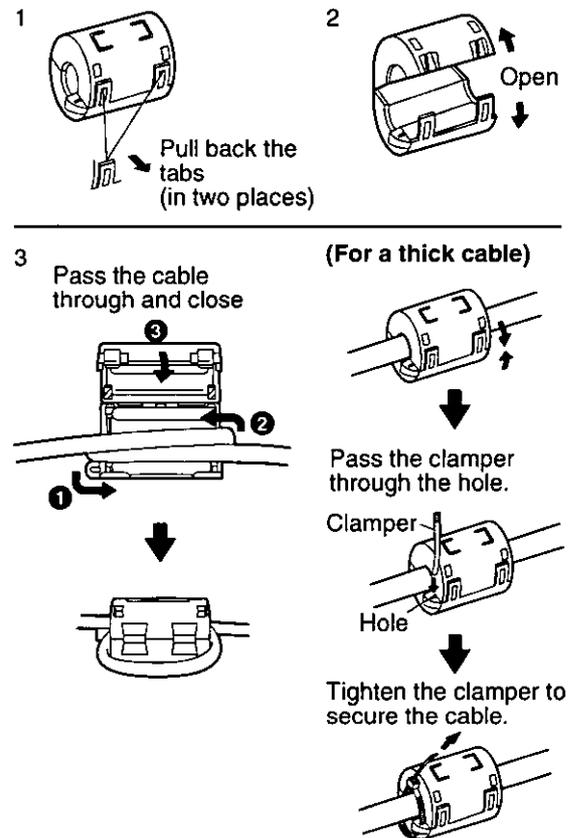
Incoming 75 Ω Cable (From Cable Company)



Note:

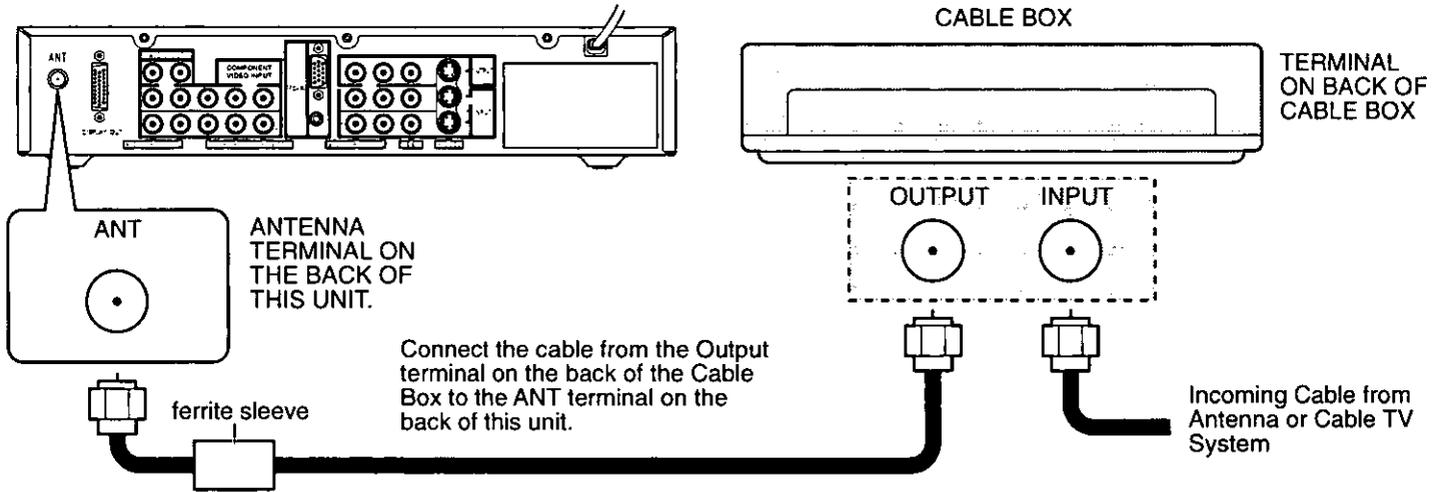
Certain cable systems offset some channels to reduce interference or have Premium (scrambled) channels. A cable converter box is required for proper reception. Check with your local Cable company for its compatibility requirements.

Installing the ferrite sleeve



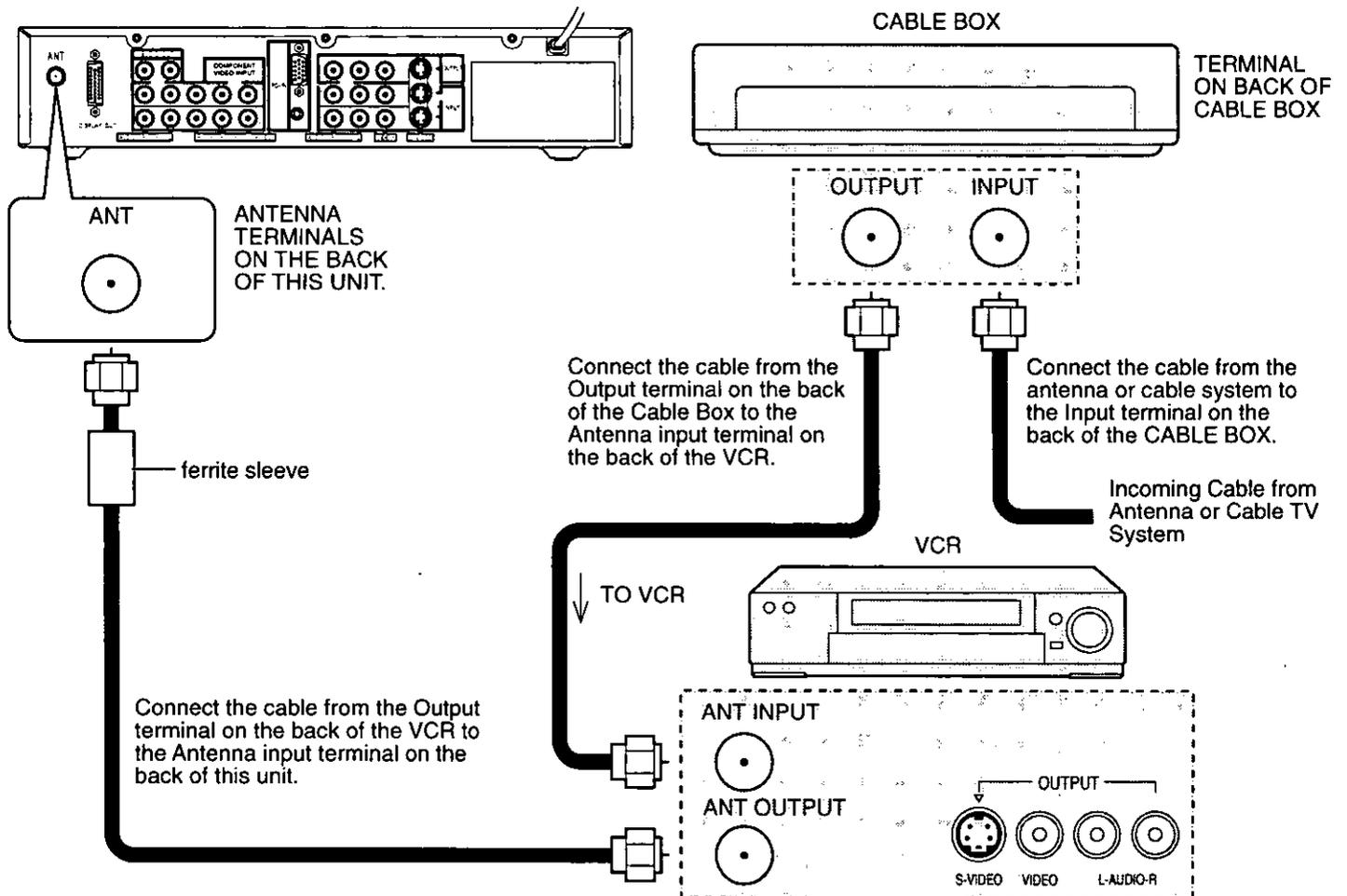
Antenna Connection (Cable Box, no VCR)

Use this configuration when connecting this unit to a cable TV system using a Cable Box.



Antenna Connection (Cable Box, and VCR)

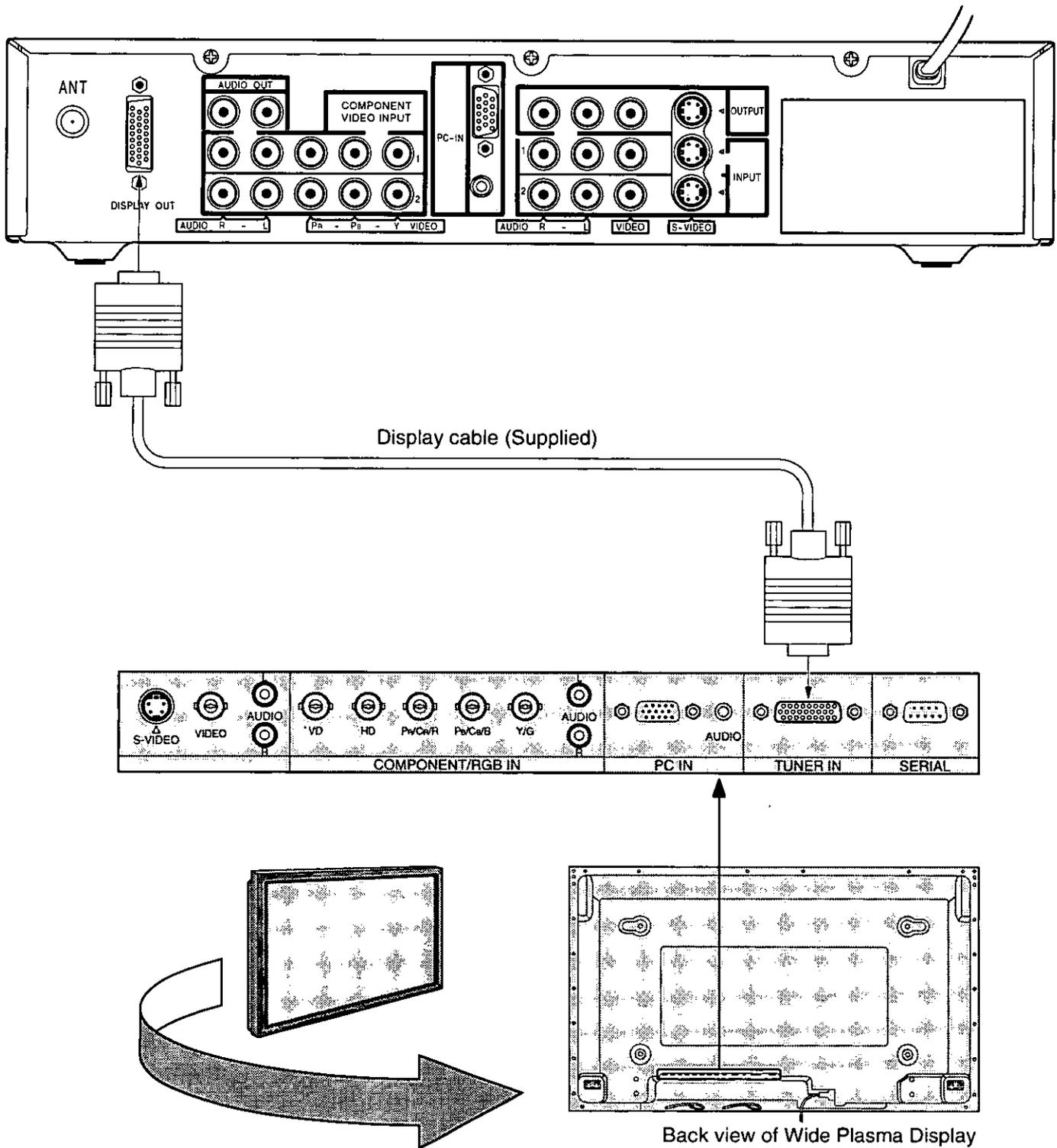
Use this configuration when connecting this unit to a cable TV system using a Cable Box and VCR.



Note: When the antenna cable is connected to this unit antenna terminal via a cable box or VCR, set this unit channel to CH3 or CH4, cable. This does not apply when signal is input from VIDEO INPUT.

Installation

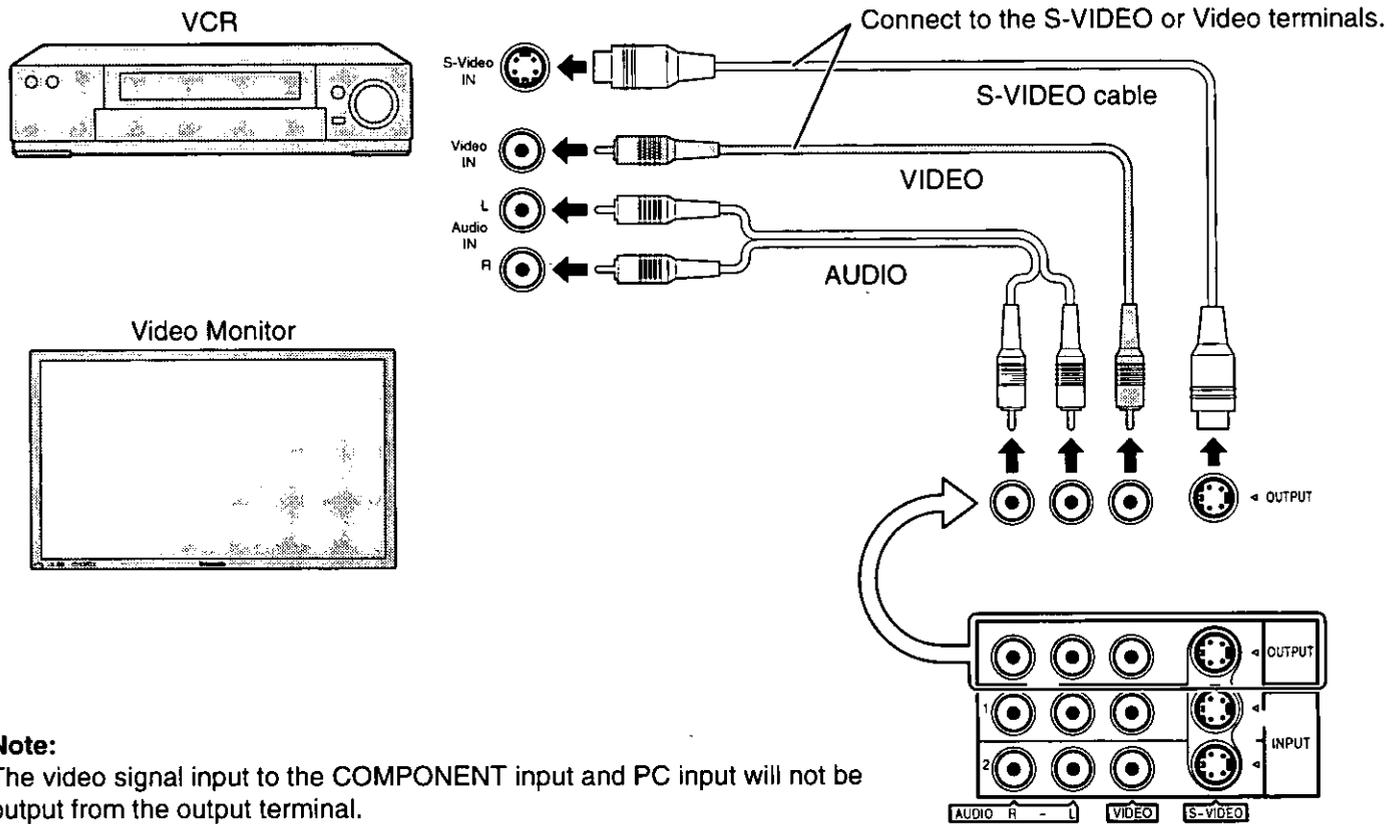
How to connect this unit and Wide Plasma Display



Notes:

Install the CONTROLLER/TUNER at least 15.7 inch (40 cm) away from the Wide Plasma Display to avoid interference. Be sure the power to the Wide Plasma Display and CONTROLLER/TUNER is OFF before connecting cables.

How to connect the OUTPUT Terminals

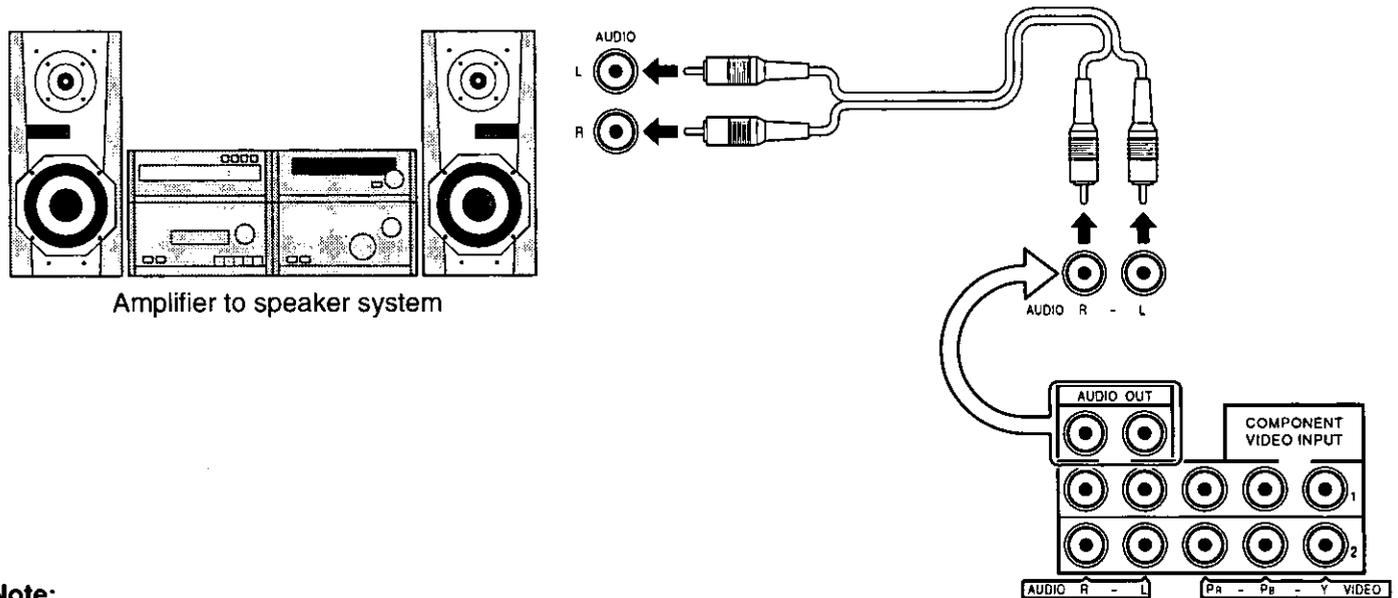


Note:

The video signal input to the COMPONENT input and PC input will not be output from the output terminal.

How to connect the AUDIO OUT Terminals

Used for connecting external amplifiers.



Note:

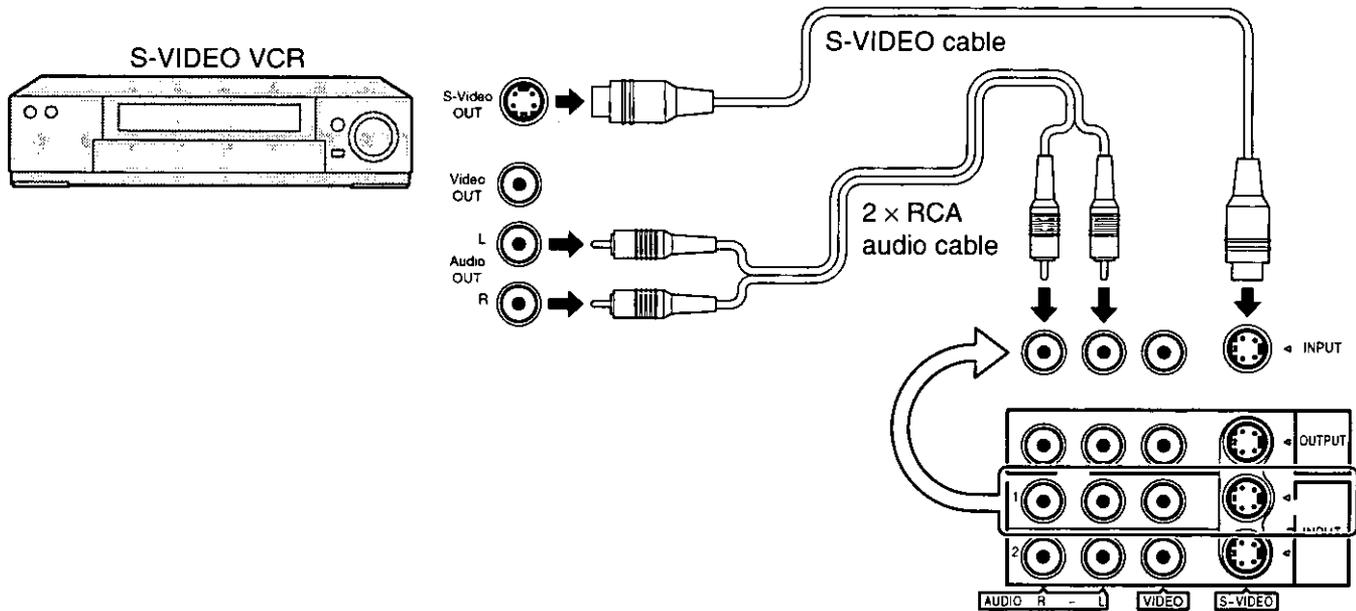
The AUDIO OUT terminals output a fixed audio signal. (SOUND ADJUST, VOLUME UP/DOWN and SURROUND ON/OFF are not functional for output signals from the AUDIO OUT terminals.)

Installation

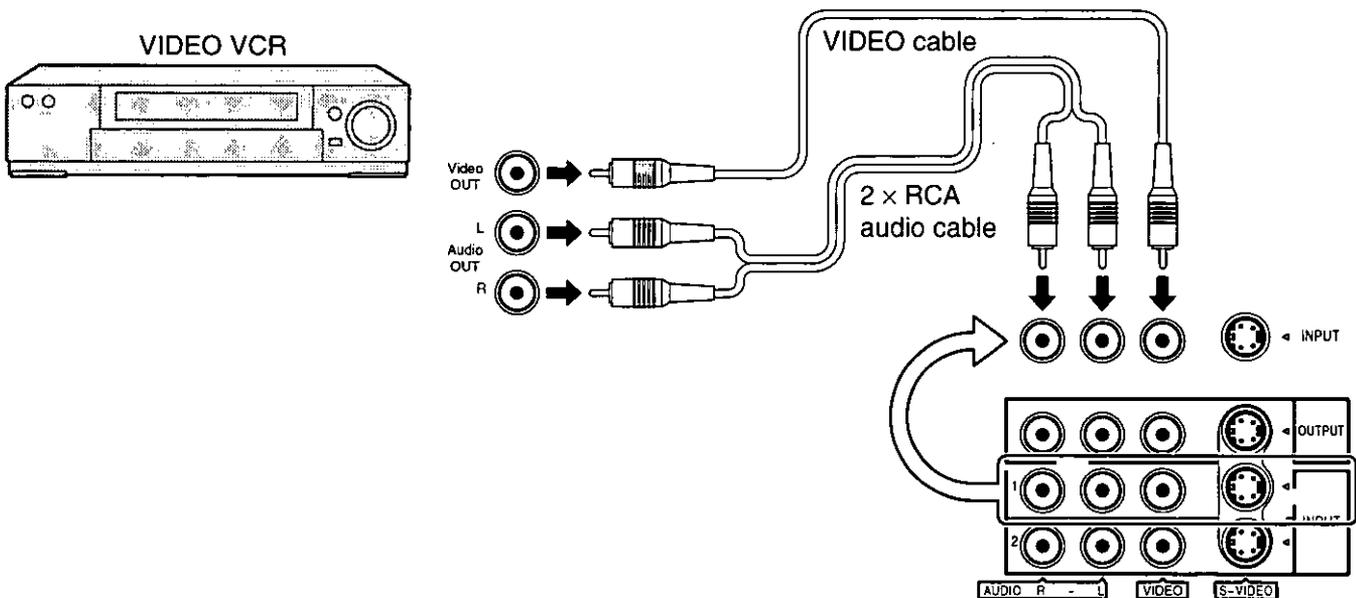
How to connect the "1, 2" Input Terminals

Connects VCRs and other peripheral equipment (INPUT 1, 2)

(Example) When connecting a S-VIDEO VCR



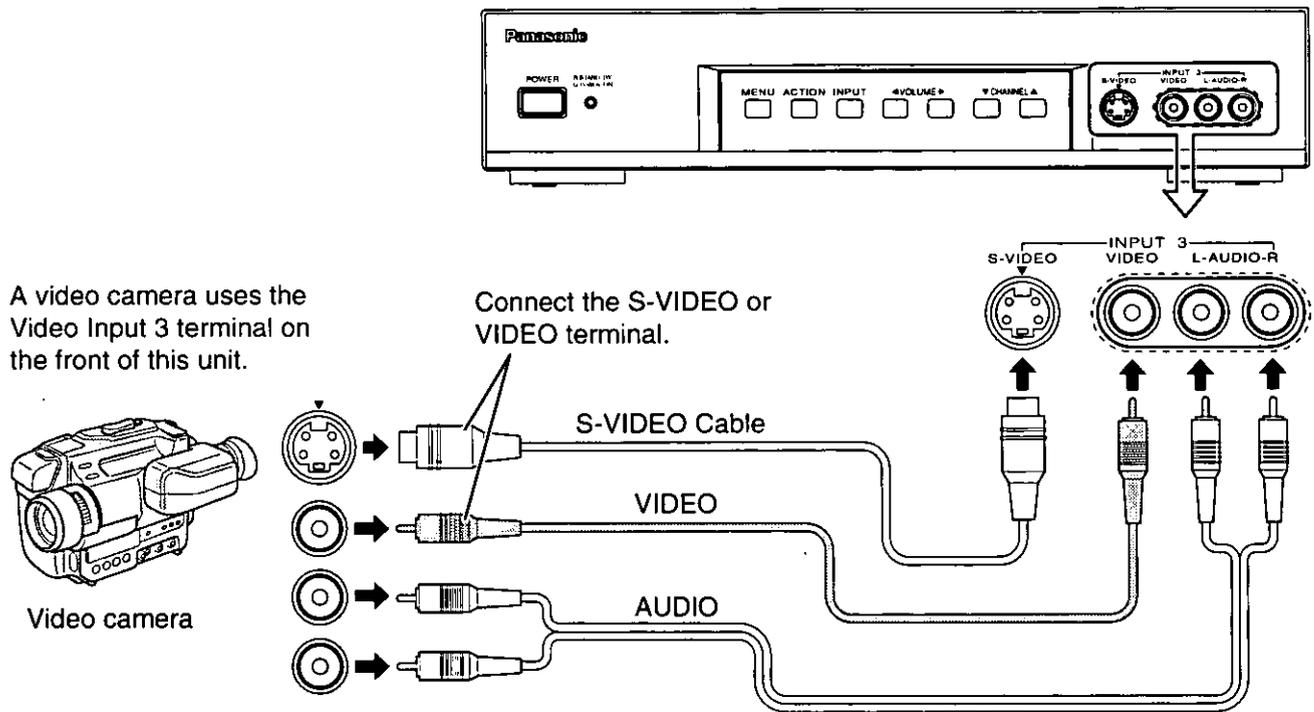
(Example) When connecting the Composite Video connector.



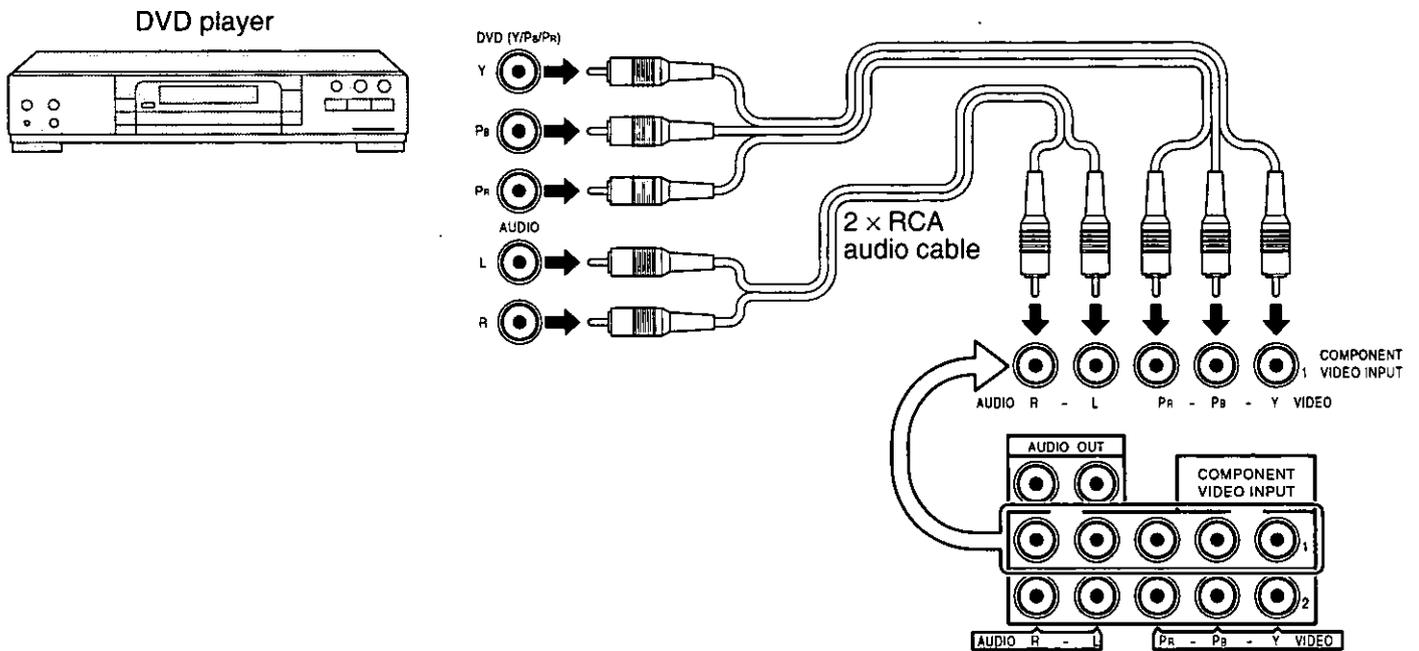
Notes:

- (1) When a monaural VCR is used, connect the monaural audio cable to the AUDIO-L (Left) terminal.
- (2) Similar connections are available at the INPUT 1, 2, 3 input terminals.
Input 3 is located on the front of the unit.
Select the desired VIDEO input position by pushing the TV/VIDEO button. (See page 26)
- (3) When connecting video cables, priority is given to the S-Video cable when the S-Video input terminal and the video input terminal are connected at the same time.

How to connect the Input 3 Terminals



How to connect the COMPONENT VIDEO INPUT Terminals



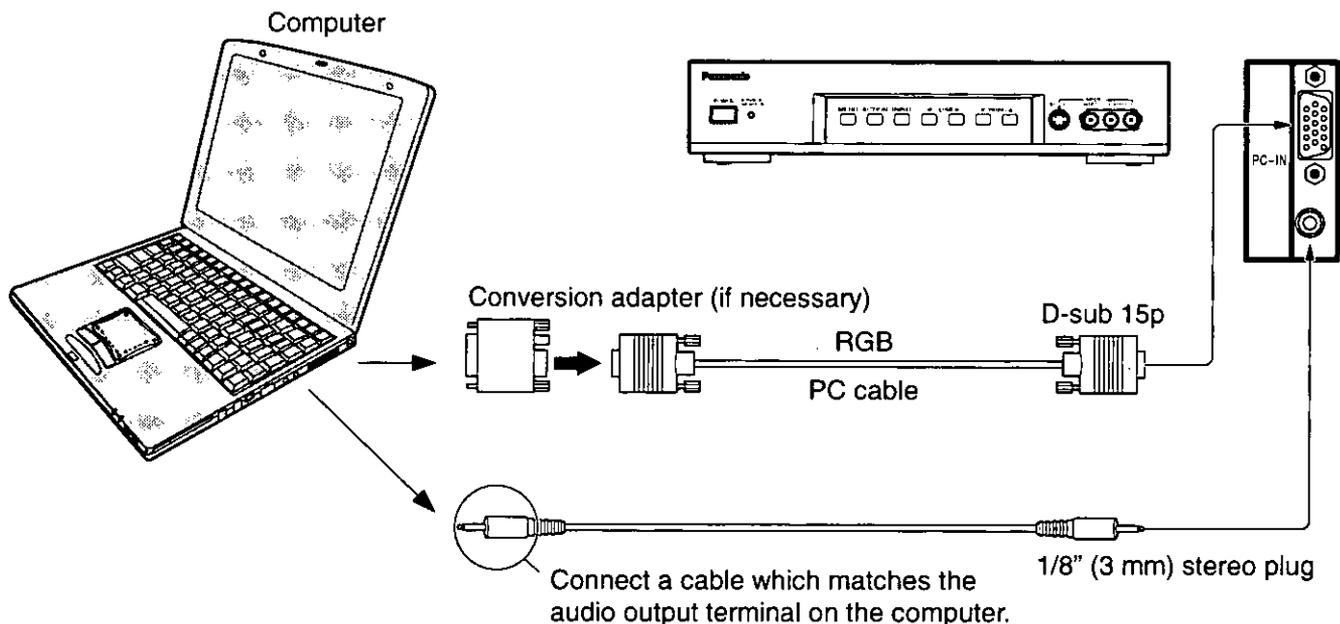
Note:

COMPONENT VIDEO INPUT

In order to prevent colors from interfering, image signals are divided into three signals of brightness, red and blue (green is created automatically from these three signals). Each signal is processed from its own circuit and combined on the screen, creating a natural picture.

Installation

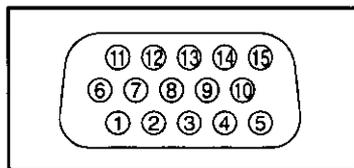
How to connect the PC Input Terminals



Notes:

- (1) Computer signals which can be input are those with a horizontal scanning frequency of 15.5 to 110 kHz and vertical scanning frequency of 48 to 120 Hz. (However, signals exceeding 1200 lines will not be displayed properly.)
- (2) The display resolution is a maximum of 640 × 480 dots when the aspect mode is set to "NORMAL", and 852 × 480 dots when the aspect mode is set to "FULL". If the display resolution exceeds these maximums, it may not be possible to show fine detail with sufficient clarity.
- (3) Some PC models cannot be connected to the set.
- (4) An adapter is required to use the PC cable (D-sub 15P) to connect a Macintosh computer to the set.
- (5) There is no need to use an adapter for computers with DOS/V compatible D-sub 15P terminal.
- (6) The computer shown in the illustration is for example purposes only.
- (7) Additional equipment and cables shown are not supplied with this set.
- (8) Do not set the horizontal and vertical scanning frequencies for PC signals which are above or below the specified frequency range.

Signal Names for D-sub 15P Connector

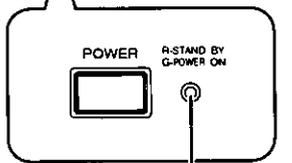


Pin layout for PC input terminal

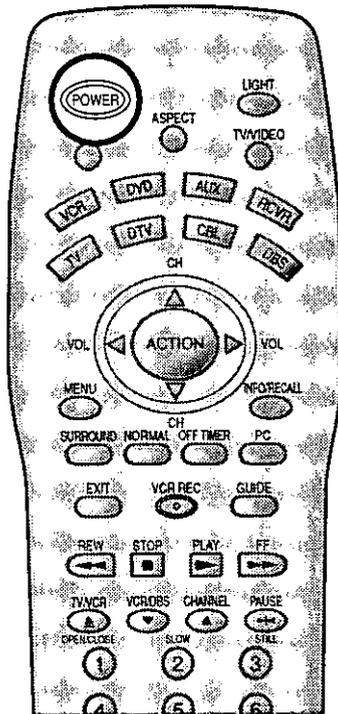
Pin No.	Signal Name	Pin No.	Signal Name	Pin No.	Signal Name
①	R	⑥	GND (Ground)	⑪	GND (Ground)
②	G	⑦	GND (Ground)	⑫	NC
③	B	⑧	GND (Ground)	⑬	HD / SYNC
④	GND (Ground)	⑨	NC (not connected)	⑭	VD
⑤	GND (Ground)	⑩	GND (Ground)	⑮	NC

Power ON / OFF and Input Signal Selection

Power ON / OFF



Power Indicator



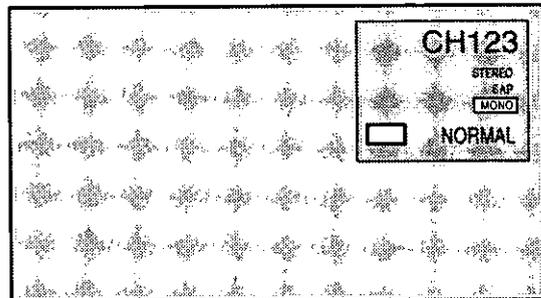
Connect the plug to the Wall Outlet

Push the POWER switch on this unit to turn the set on
POWER-ON

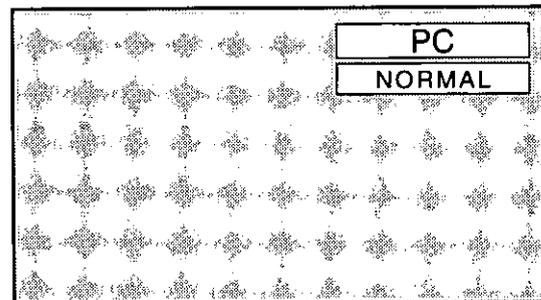
Power Indicator: Green

Example: The screen below is displayed for a while after this unit is turned on. (setting condition is an example.)

For VIDEO / COMPONENT / TV INPUT:



For PC INPUT:



Press the POWER button on the remote control to turn this unit off

Power Indicator: Red (standby)

Press the POWER button on the remote control to turn this unit on

Power Indicator: Green

Turn the power to this unit set off by pressing this power switch on this unit, when this unit is on or in standby mode.

Location of Controls

Illuminated Remote Control

Power button

Press to turn this unit ON or OFF. (See page 15)

Note:

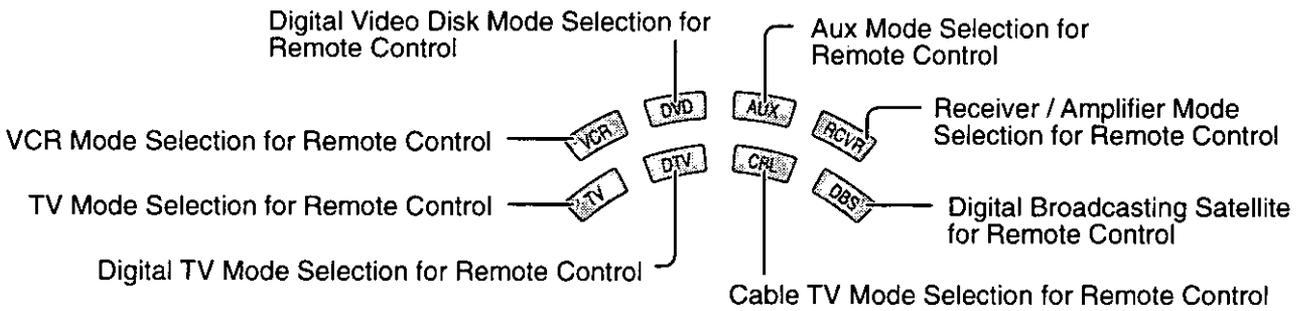
The CONTROLLER / TUNER's power cord must first be plugged into the wall outlet and then turned on at the POWER switch.

MUTE button

Push this button to mute the sound. (See page 33)

Mode Selection buttons

Selects the operation mode for the remote control. (See page 53 – 60)



Operating of other Device

Buttons				
VCR	REW	STOP	PLAY	FF
CABLE / DBS	—	—	—	—
DVD / LD / CD	Skip Search REW	STOP	PLAY	Skip Search FF
RCVR	Surround -	—	—	Surround +

Buttons				
VCR	TV/VCR switch	Channel down	Channel up	Pause
CABLE / DBS	—	Channel down	Channel up	—
DVD / LD / CD	Open/Close	Slow - / LD-sideB / Random	Slow - / LD-sideA / Repeat	Still/Pause
RCVR	—	Center -	Center +	—



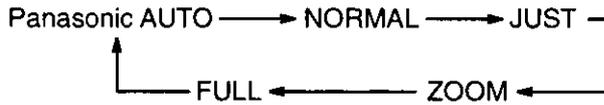
R-TUNE button

Switches to previously view to channel or video mode.

Location of Controls

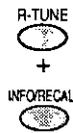
ASPECT button

Change of screen size (See page 22).



Lights the remote control buttons
The selected button blinks when lit.

Turning ON and OFF the remote control illumination



Remote control illumination can be turned ON and OFF by pressing the INFO/RECALL button while pressing the R-TUNE button.

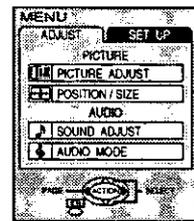
TV/VIDEO buttons

This input mode changes each time this button is pressed. (See page 26)

Reduces volume

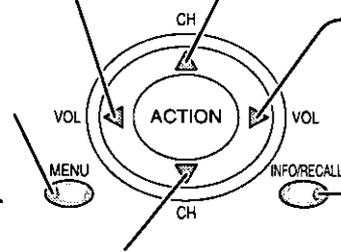
Moves cursor to the left during menu mode.

Displays menu
Press the Menu button to display the Menu screen.



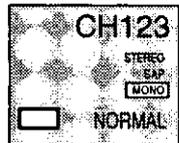
Changes to the next channel up
Moves cursor upward during menu mode.

Increase volume
Moves cursor to the right during menu mode.



Changes to the next channel down
Moves cursor downward during menu mode.

The screen below is displayed for 10 seconds.



NORMALIZATION button

Each setting in the MENU screen is reset to its standard values. (PICTURE, AUDIO, POSITION/SIZE).

OFF TIMER button
(See page 45)

SURROUND button
(See page 33, 37)

PC button
Switches to the PC INPUT mode.

Returns to normal viewing from the MENU screen. Previous before item in MENU.

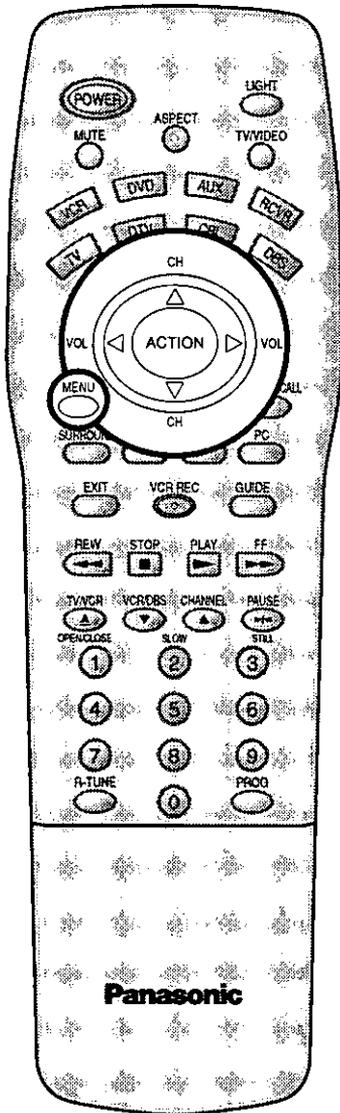
VCR Record button

GUIDE button
for DBS.

PROG button

Direct program number selection buttons

Flow Chart of Main menu

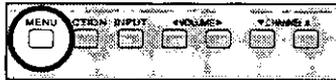


1

If the MENU button is pressed, the MENU screen will be displayed.
If the MENU button is pressed once more while the menu screen is displayed, the MENU screen will be cleared.

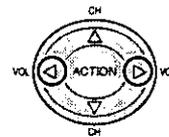


The MENU button on the unit can also be pressed to display the MENU screen.

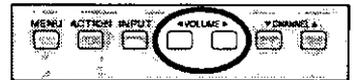


2

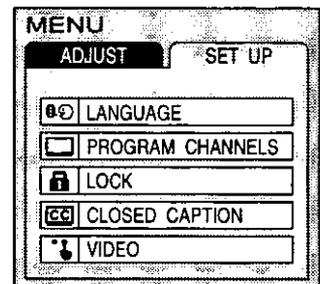
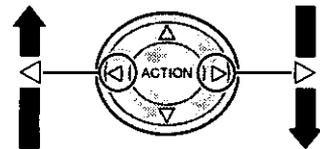
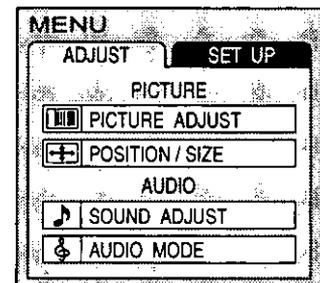
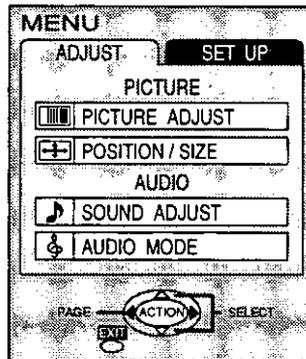
Select MENU desired by pushing Right "▶" button or Left "◀" button.



The Right "▶" button and Left "◀" buttons on the unit can also be used to select items on the MENU screen.

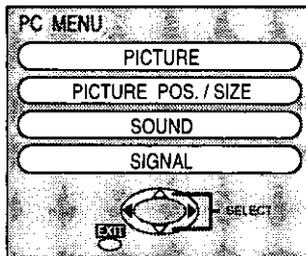


During TV, VIDEO 1 – 3 and COMPONENT 1 – 2 input mode



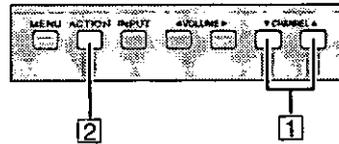
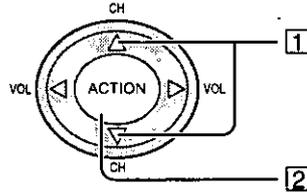
PC input mode

The following screen is displayed during PC input mode:

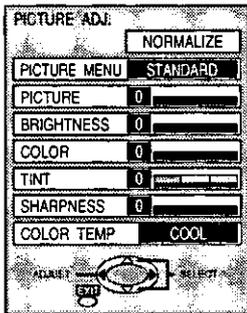


3

The CHANNEL button on the main body can also be pressed to select items in the MENU screen.

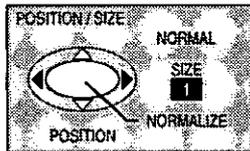


TO PICTURE ADJUST screen



see page 34

TO POSITION/ SIZE adjust screen



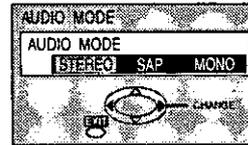
see page 28

TO SOUND ADJUST screen



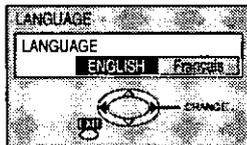
see page 32

TO AUDIO MODE selection screen



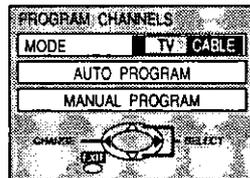
see page 45

TO LANGUAGE selection screen



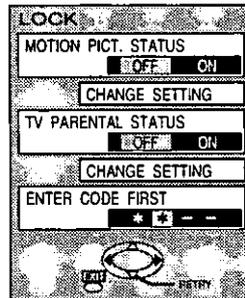
see page 51

TO PROGRAM CHANNELS screen



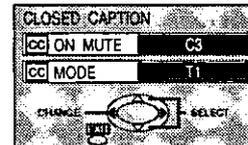
see page 20, 21

TO LOCK selection screen



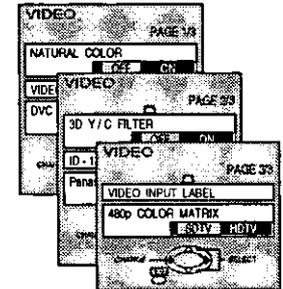
see page 40 - 42

TO CLOSED CAPTION selection screen



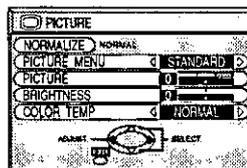
see page 38, 39

TO VIDEO selection screen



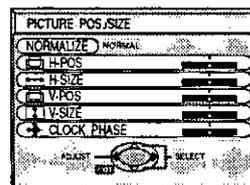
see page 43, 46 - 50

TO PICTURE adjust screen



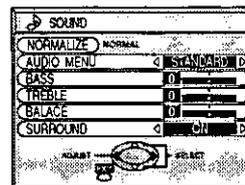
see page 36

TO PICTURE POS./SIZE adjust screen



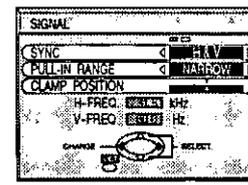
see page 30

TO SOUND adjust screen



see page 33

TO SIGNAL selection screen



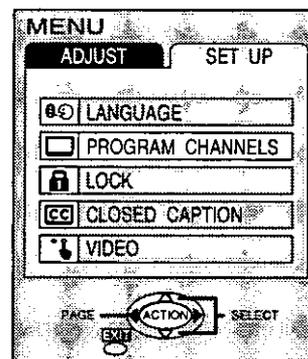
see page 52

Tuning channels (Automatic channel programming)

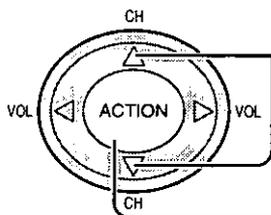
Automatically searches and adds receivable channels in the installed area and / or CATV signals to the program.

Channel tuning cannot be performed when the MAIN picture is not receiving a TV broadcast (tuning is not possible).

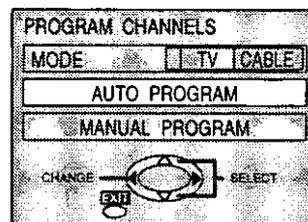
1 Press the MENU button to display the MENU screen and select SETUP.



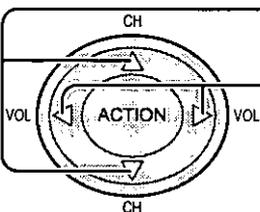
2 Press to select PROGRAM CHANNELS.



Press to display the PROGRAM CHANNELS.

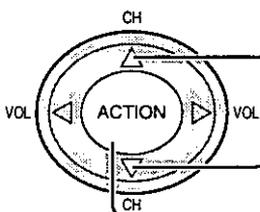


3 Press to select MODE.

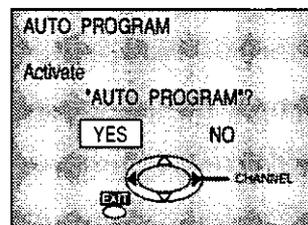


Press to select TV or CABLE.

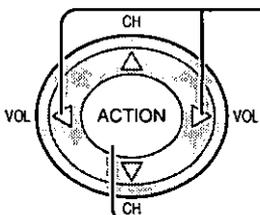
4 Press to select AUTO PROGRAM.



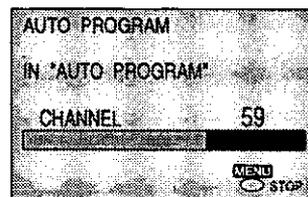
Press to display the confirmation screen.



5 Press to select YES.



Press to run AUTO PROGRAM.



Channels will automatically advance until all channels have been scanned. Channel numbers with a video signal present will turn blue which indicates stored in the Channel Scan Memory.

6 Press to select YES.

Notes:

- When buttons are pressed with AUTO PROGRAM running, this unit will return to normal viewing. (Channels searched up to this point are added.)
- After AUTO PROGRAM is finished, the lowest channel number added will be received.
- When there are no receivable channels, channel 69 is displayed (channel 125 for cable TV).

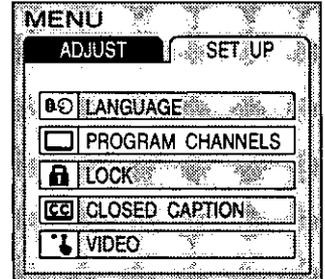
Tuning channels (Manual channel programming)

Use this setting when changing setting of receiving channels or changing the channel display.

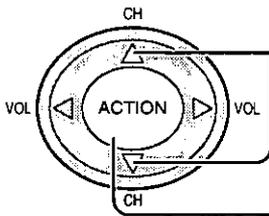
Turn this unit on and select the broadcast channel. Follow the steps on the previous page to display the PROGRAM CHANNEL screen.

This PROGRAM CHANNEL screen can be displayed when the MAIN picture is a TV broadcast.

1 Press the MENU button to display the MENU screen and select SETUP.

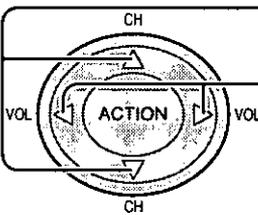


2 Press to select PROGRAM CHANNELS.

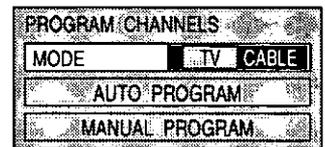


Press to display the PROGRAM CHANNELS.

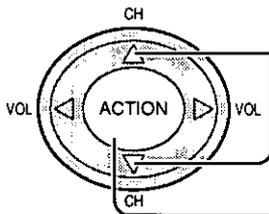
3 Press to select MODE.



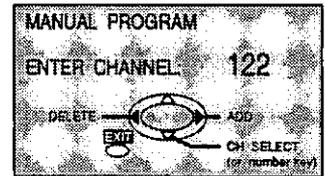
Press to select TV or CABLE.



4 Press to select MANUAL PROGRAM.

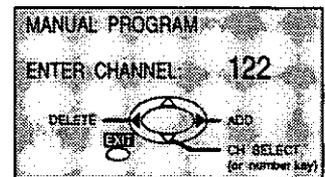
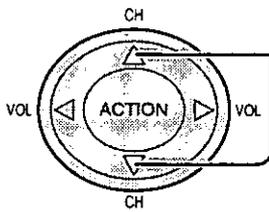


Press to display the MANUAL PROGRAM screen.

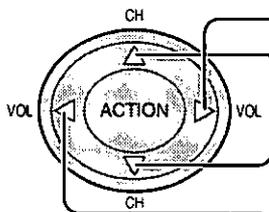


Adding or deleting channels

5 Press to select channel (or number keys).



6 Press to add channels to memory (blue).
 Press to select channel.



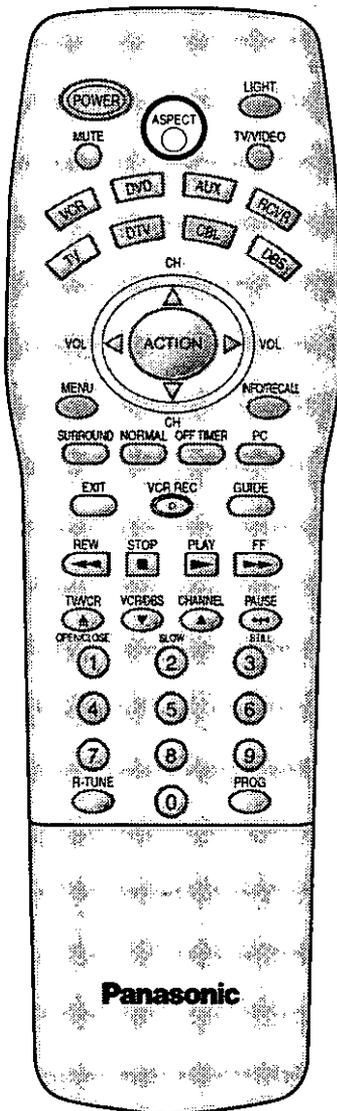
Press to delete channels from memory (yellow).

7 Repeat steps 4 and 5 to continue adding or deleting channels.

8 Press the MENU button to exit the set up menu.

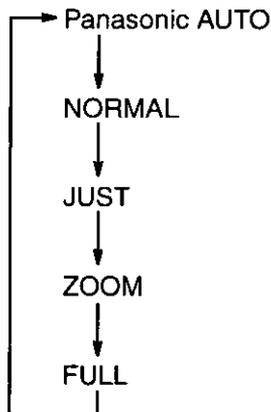
ASPECT Controls

The color monitor will allow you to enjoy viewing the picture at its maximum size, including wide screen cinema format picture.



ASPECT button

The aspect mode changes each time the ASPECT button is pressed.



When the ASPECT button is pressed, the screen mode switches to Panasonic AUTO, regardless of the mode the screen is set to.

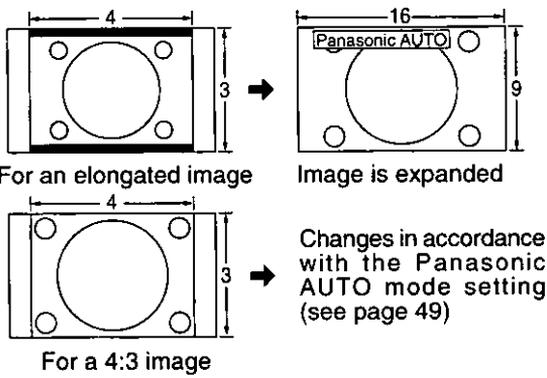
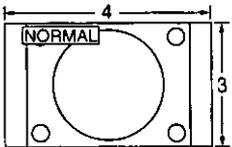
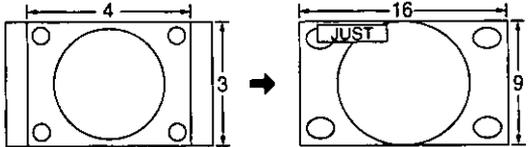
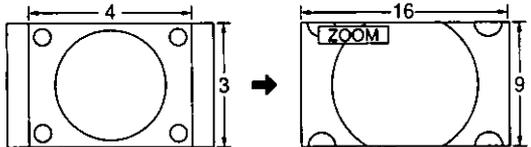
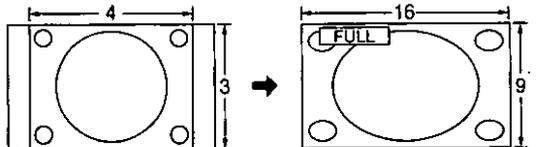
Notes:

- (1) For a 480p signal input during component input signal mode, the mode switches ZOOM and FULL only.
- (2) When a 1080i and 720p signal is being received, the mode is set to FULL, and aspect switching is not possible.
- (3) During PC INPUT modes will change as follows:

NORMAL ↔ FULL

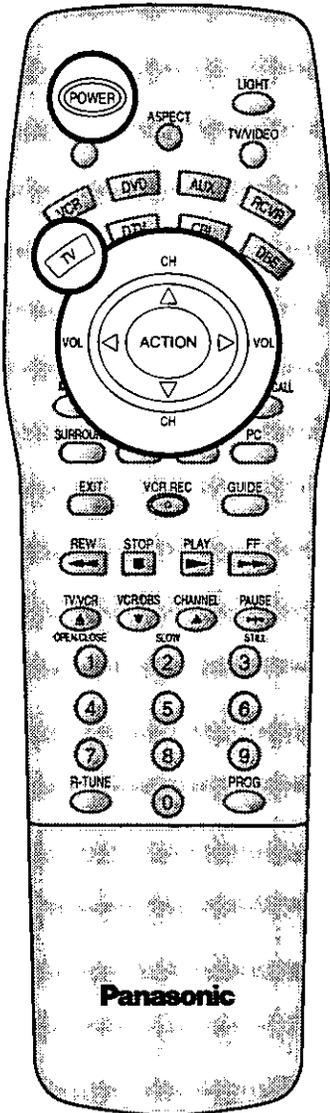
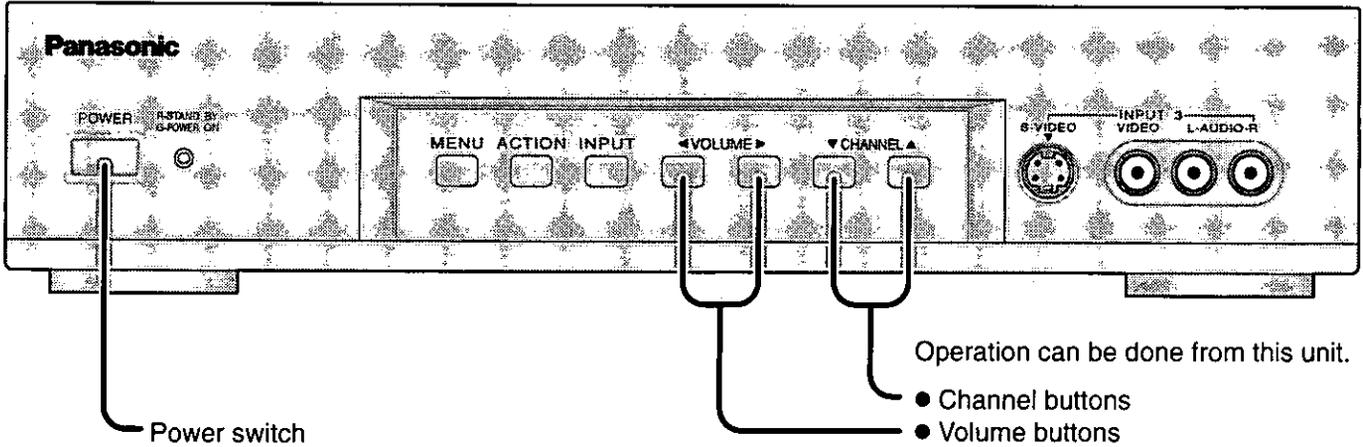
- (4) The aspect mode is memorized separately for each input terminal. (TV, VIDEO1 - 3, COMPONENT1 - 2, PC)

ASPECT Controls

Mode	Picture	Explanation
Panasonic AUTO	 <p>For an elongated image Image is expanded</p> <p>Changes in accordance with the Panasonic AUTO mode setting (see page 49)</p> <p>For a 4:3 image</p>	<p>The display will automatically become enlarged (depending on the picture source), allowing you to view the picture at its maximum size.</p> <p>Notes:</p> <p>(1) Panasonic AUTO mode is designed to automatically adjust the aspect ratio to handle a mix of 16:9 and 4:3 program material. Certain 4:3 program material, such as stock market data screens, may occasionally cause the image size to change unexpectedly. When viewing such programs, it is recommended that the ASPECT be set to NORMAL.</p> <p>(2) There may be a slight delay for the screen size to adjust. If a 480p or 720p or 1080i signal is input during component input signal mode, the controls will not operate.</p>
NORMAL		<p>NORMAL will display a 4:3 picture at its standard 4:3 size.</p>
JUST		<p>JUST mode will display a 4:3 picture at its maximum size but with aspect correction applied to the center of the screen so that elongation is only apparent at the left and right edges of the screen. The size of the picture will depend on the original signal.</p>
ZOOM		<p>ZOOM mode magnifies the central section of the picture.</p>
FULL		<p>FULL will display the picture at its maximum size but with slight elongation.</p>

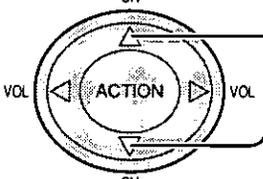
Note:
The screen size also changes if ID-1 is detected.

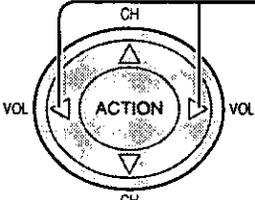
VHF, UHF and CATV



1  Press to turn this unit on (See page 15).

2  Press to operate this unit with the remote control.

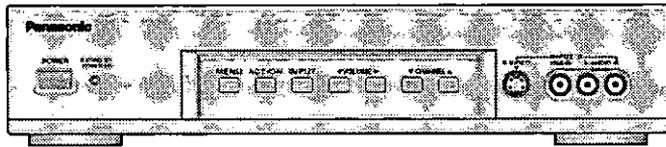
3  Press to select the desired channel.

4  Press to select the desired volume level.

Notes:

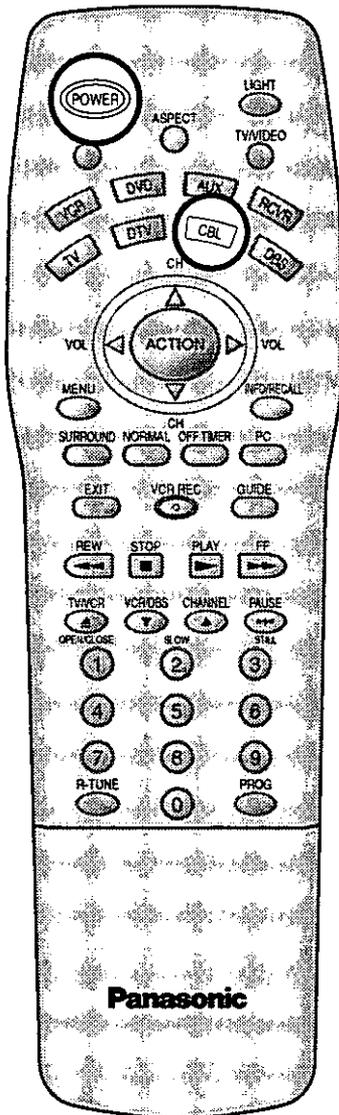
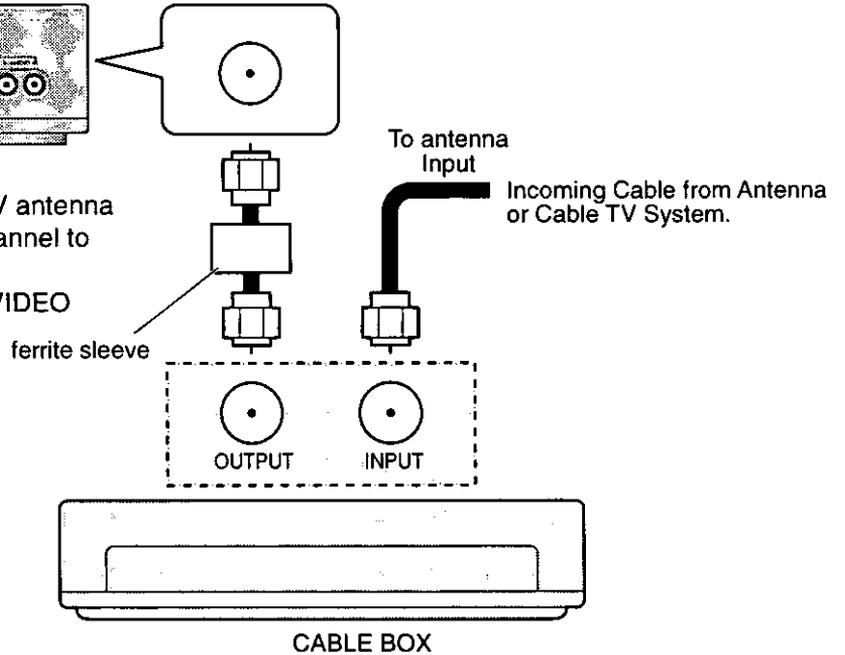
- The channel number and volume level are set even after this unit is turned off.
- Power consumption and howling of sound can be reduced if the volume level is lowered.

Cable TV



ANTENNA
TERMINALS ON THE
BACK OF THIS UNIT.

When the antenna cable is connected to the TV antenna terminal via a cable box or VCR, set the TV channel to CH3 or CH4 (see page 9). This does not apply when signal is input from VIDEO INPUT.



Confirming

Confirm that registration with cable TV and connection of equipment are completed. Turn the cable TV tuner and select the desired volume level.

1



2



Press while pointing the remote control towards the cable TV tuner.

Note:

The remote control code number is set for Panasonic products.

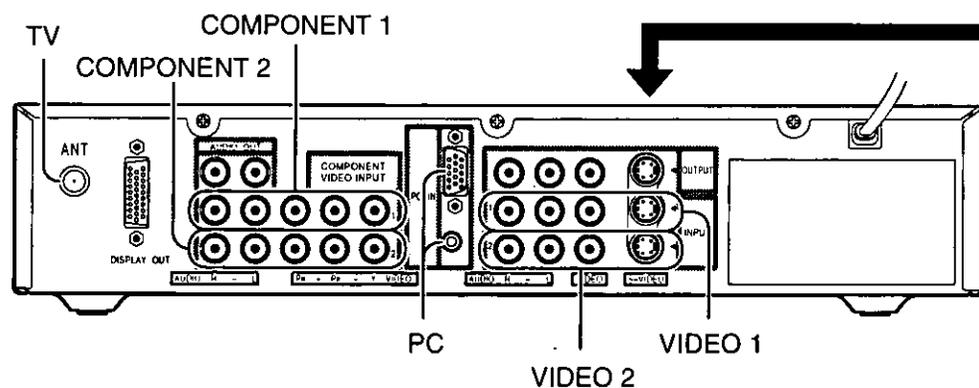
When peripheral equipment do not operate, reset code (See page 54).

3

Operate the cable TV tuner and select the desired volume level.

Selection input signal

Confirming connection of the connector for desire selection signal.

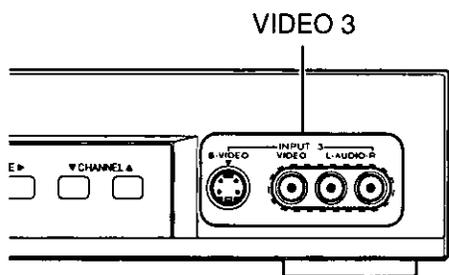


VCR

Laser Disk Player

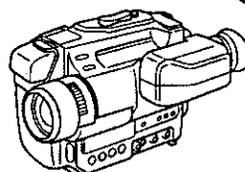
DVD Player

This equipment can also be connected to the rear terminals. See Connections for details.



A video camera uses the Video Input 3 terminal on the front of this unit.

Video camera



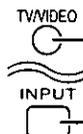
Turning the power on and switching input modes

1



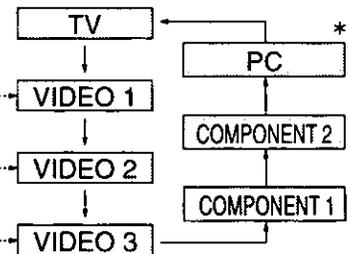
Turn this unit on.

2



The input mode changes each time this button is pressed.

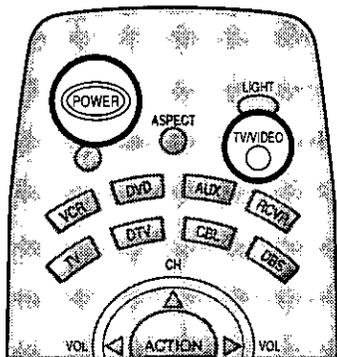
- When playing a video VIDEO 1
- When playing a DVD VIDEO 2
- When playing from a video camera VIDEO 3



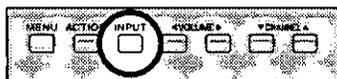
No input mode is displayed for terminals with no equipment connected (Excluding PC).

* PC input can only be selected by using the INPUT button on the front of the tuner.

* PC input can also be selected by pressing the PC button on the remote.



Input modes can also be switched using the INPUT button on the unit.



Note:

When the remote control is unavailable, input modes can also be switched on front of this unit using the INPUT button.

3

Operate the connected equipment.

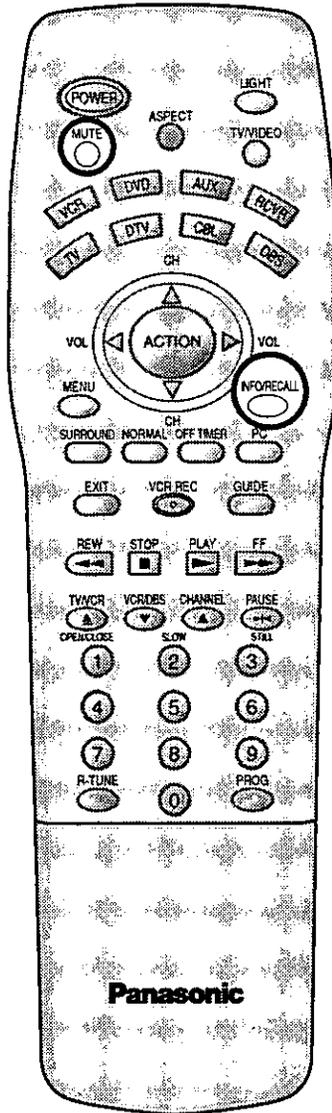
Recall

Recall (On-screen display)

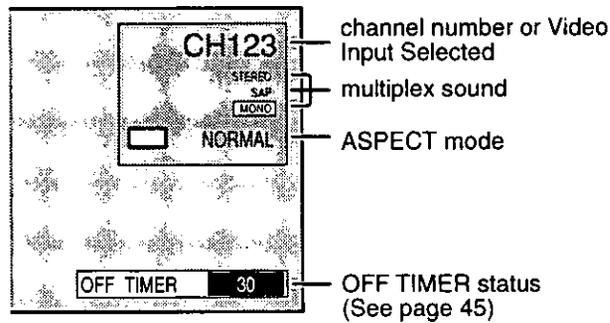
TV, VIDEO input mode



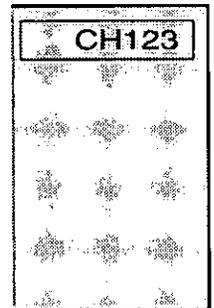
The channel number remains, but other information disappears after 10 seconds. Press this button again to delete channel number display.



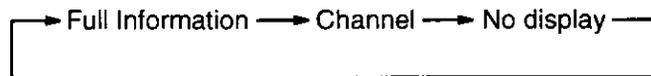
Full Information



Channel number



The INFO/RECALL button switches the display in the following order.

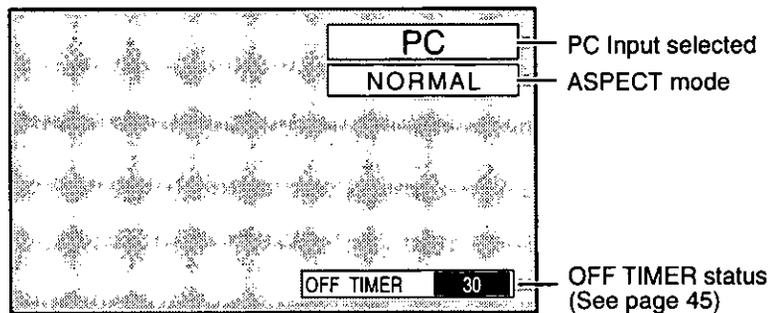


Press this button to display channel number, off-timer remaining time, screen modes, and other settings.

PC input mode



Press this button to display input signal, screen mode, and disappears after 3 seconds. Following screen is displayed in PC input mode.

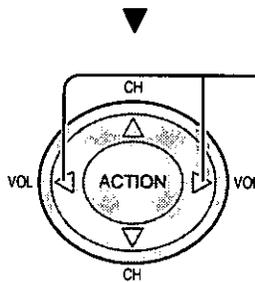


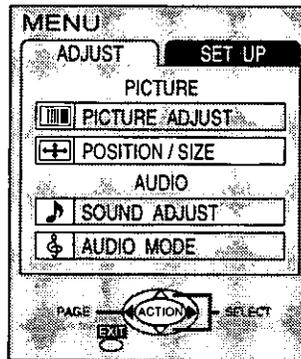
Adjusting screen POSITION/SIZE (TV, VIDEO input mode)

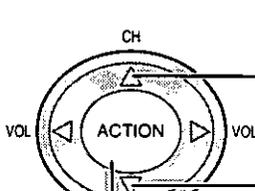
Adjusting screen

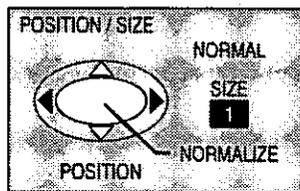
1  Press to select the screen mode to adjust.

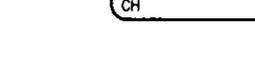
2  Press to display the MENU.

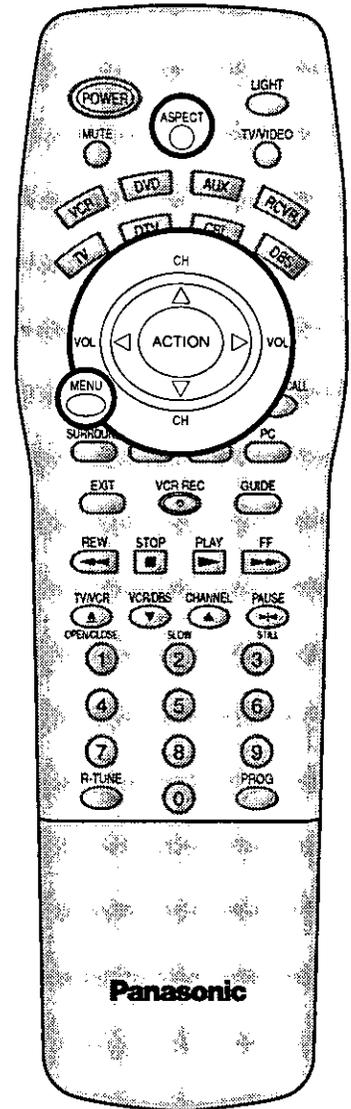
 Press to select ADJUST menu.



3  Press to select POSITION/SIZE.



 Press to display the POSITION/SIZE screen.



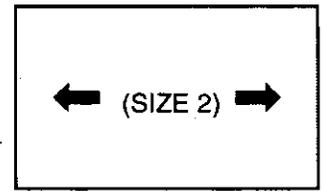
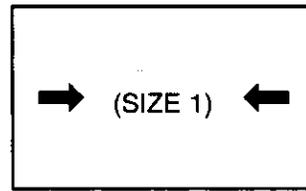
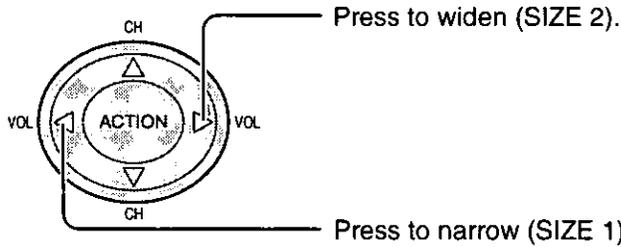
Notes:

- This unit is equipped with various screen modes. If a screen mode with a different aspect as the broadcast program is selected, image will appear differently. Select the proper screen mode with this in mind.
- Be careful when using this unit for commercial purposes or for public use, such as in cafes and hotels, for shrinking and enlarging images by using screen mode switching function (zoom, etc.) may violate copyright laws.
- Images displayed on a wide screen unit will be cut off or distorted at the edges, when viewing normal aspect images of 4:3 in ZOOM, JUST or FULL mode. Display in NORMAL mode to view the original image intended by the producer.
- For 1080i, 720p and 480p input images, screen position and size cannot be adjusted.
- The adjusted setting will be kept even when this unit is turned off.
- The signals output from the monitor output terminal on the back of this unit is not affected when the screen size and position is adjusted.

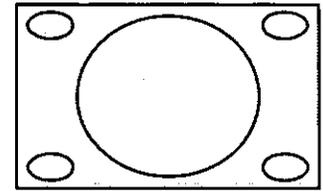
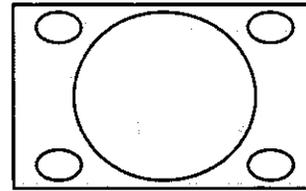
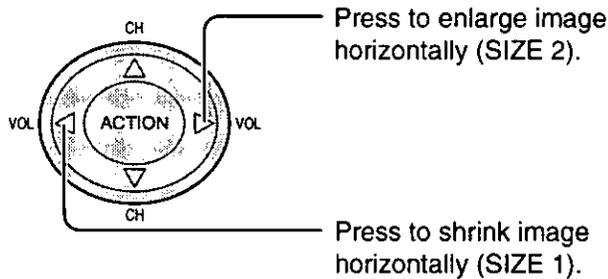
Adjusting screen POSITION/SIZE (TV, VIDEO input mode)

Switching screen width

During NORMAL mode, if noise appears on the ends of the image in SIZE 1, switch to SIZE 2.



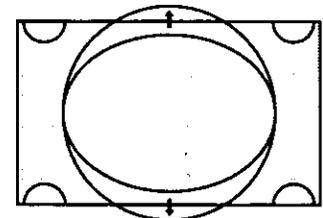
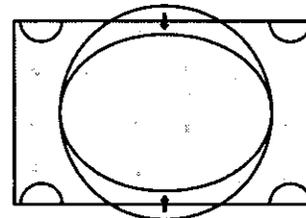
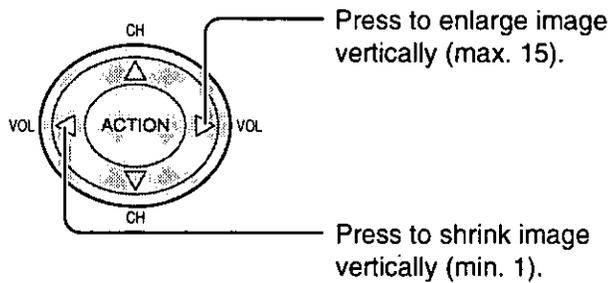
During JUST mode, if noise appears on the ends of the image in SIZE 1, switch to SIZE 2.



- To return to standard → ACTION
- To end adjustments → MENU (EXIT)

Changing vertical size

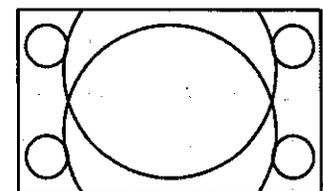
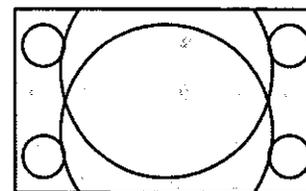
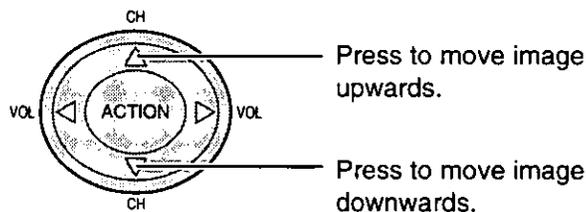
During ZOOM modes.



- To return to standard → ACTION
- To end adjustments → MENU (EXIT)

Displaying images cut off from the screen

For ZOOM and JUST modes.



- To end adjustments → MENU

Note:

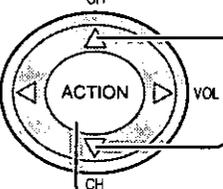
- If a "Cue" or "Rew" signal from a VCR or DVD player is received, the picture position will shift up or down. This picture position movement cannot be controlled by the POSITION/SIZE function.

Helpful Hint (/ Normalization)

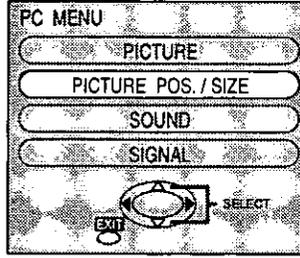
When the NORMAL or ACTION button on the remote control is pressed when POSITION/SIZE is displayed, all settings are returned to factory settings.

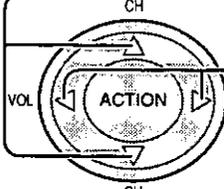
Adjusting PICTURE POS./SIZE (PC input mode)

1  Press to display PC MENU screen.

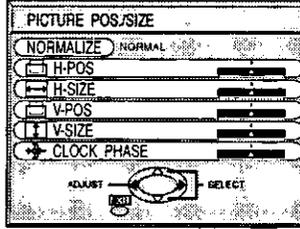
2  Press to select the PICTURE POS./SIZE.

 Press to display PICTURE POS./SIZE menu screen.



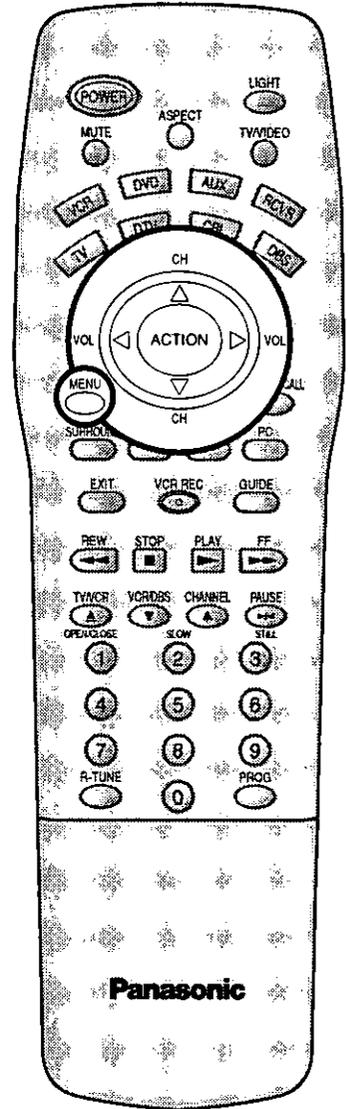
3  Press to select the menu to adjust each item.

 Select the desired level by best each position/size.

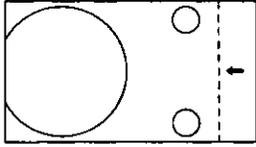
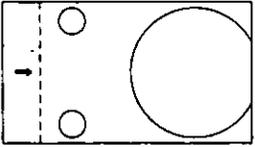
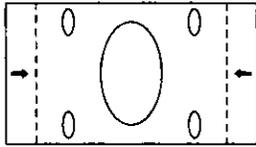
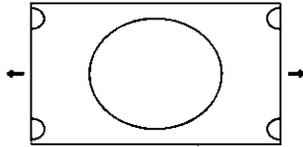
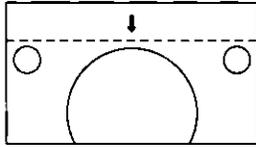
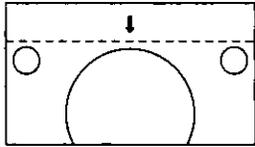
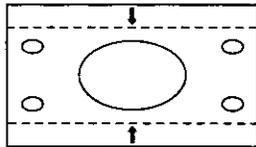
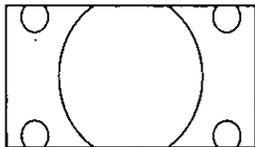


• To end adjustments →

 Press MENU button.



Adjusting PICTURE POS./SIZE (PC input mode)

H-POS	<p>When the Position Left "◀" button is pressed</p> 	<p>When the Position Right "▶" button is pressed</p> 
H-SIZE	<p>When the Position Left "◀" button is pressed</p> 	<p>When the Position Right "▶" button is pressed</p> 
V-POS	<p>When the Position Left "◀" button is pressed</p> 	<p>When the Position Right "▶" button is pressed</p> 
V-SIZE	<p>When the Position Left "◀" button is pressed</p> 	<p>When the Position Right "▶" button is pressed</p> 
CLOCK PHASE	<p>Flickering and distortion can be eliminated by using the Position Left "◀" or Right "▶" button to carry out adjustment.</p>	

Note:

Adjustment details of each input signal (frequency) for PC input signal modes are memorized separately.



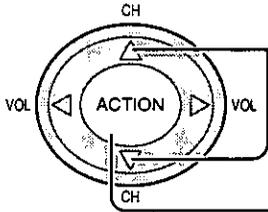
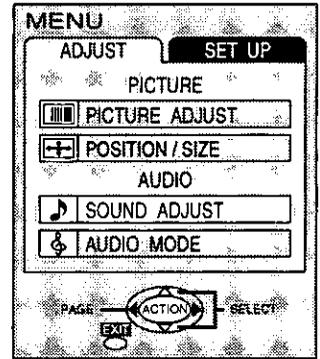
Helpful Hint (/ Normalization)

While the PICTURE POS./SIZE display is active, if either the NORMAL button on the remote control is pressed at any time or ACTION button is pressed during "NORMALIZE", then all adjustment values are returned to the factory settings.

Sound Adjustments (TV, VIDEO input mode)

1 Press the MENU button to display the MENU screen and select ADJUST.

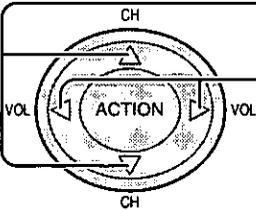
2 Select SOUND ADJUST of ADJUST from the MENU screen.



Press to select SOUND ADJUST

Press to SOUND ADJUST screen is displayed.

3 Press to select the menu to adjust each item.

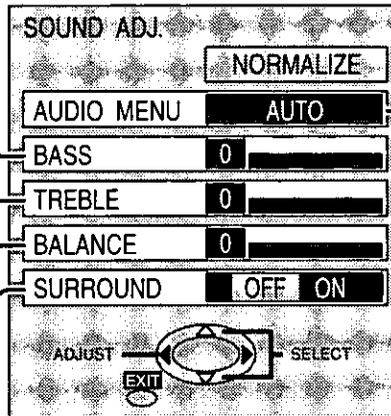


Select the desired level by listening at the sound.

BASS
Adjusts low sounds

TREBLE
Adjusts high sounds

BALANCE
Adjust left and right volumes



AUTO Automatically controls volume level.

STANDARD Emits the original sound.

SURROUND

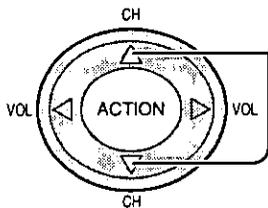
To enjoy a concert hall effect, turn SURROUND to ON.
During stereo sound or soft playing:

SURROUND OFF ON

During monaural sound:

SURROUND OFF ON

To reset to standard setting



Select NORMALIZE with the up ▲ and down ▼ buttons and press ACTION button or  (NORMAL button).

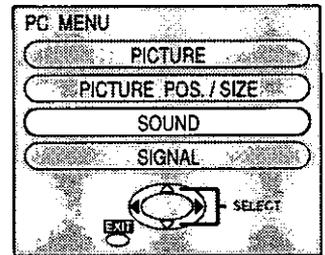
● To end adjustments →



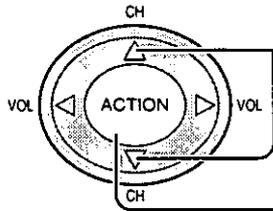
Press MENU button.

Sound Adjustments (PC input mode)

1 Press the MENU button to display the PC MENU screen.

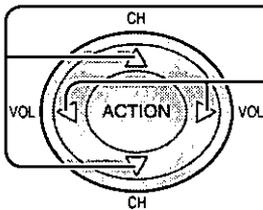


2 Press to select SOUND.



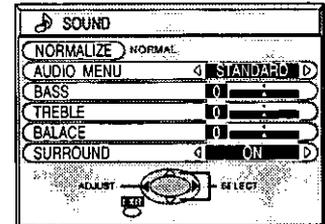
Press to display SOUND menu screen,

3 Select of adjust each item.



Press to select the menu to adjust.

Select the desired level by listening to the sound.

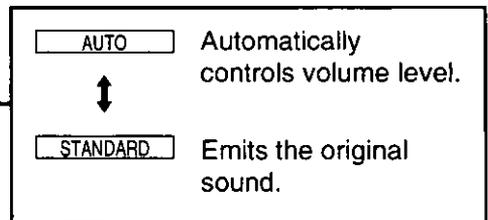
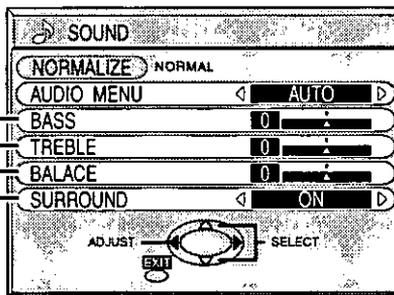


BASS
Adjusts low sounds

TREBLE
Adjusts high sounds

BALANCE
Adjust left and right volumes

SURROUND (see page 37)
Selection ON or OFF



● To end adjustments → Press MENU button.

Note:

Press the SURROUND button to directly turn the surround effect ON and OFF. (see page 37)

Helpful Hint (/ Normalization)

While the "SOUND" menu is displayed, if either the NORMAL button on the remote control is pressed at any time or the ACTION button is pressed during "NORMALIZE", then all adjustment values are returned to the factory settings.

Mute

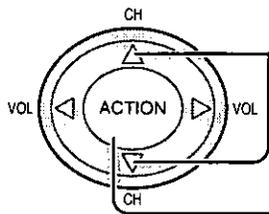
Useful when answering the phone or receiving unexpected visitors.



Press this button to mute the sound.
Press again to reactivate sound. Sound is also reactivated when power is turned off or volume level is changed.

Picture Adjustments (for TV, VIDEO input mode)

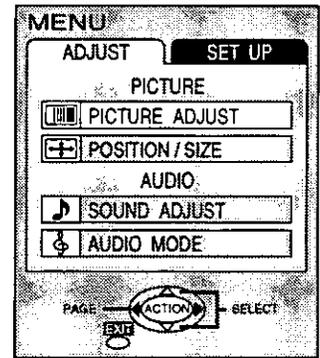
- 1** Press the MENU button to display the MENU screen and select ADJUST.



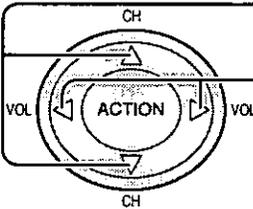
Press to select PICTURE ADJUST.

Press to display the PICTURE ADJUST screen.

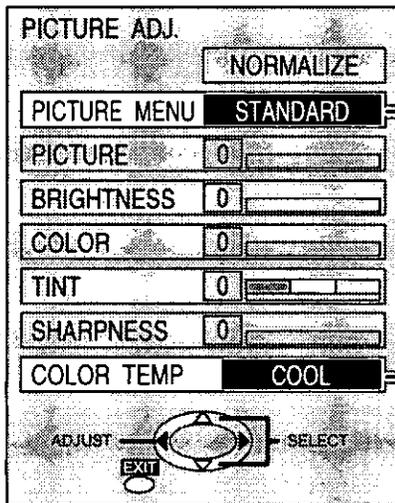
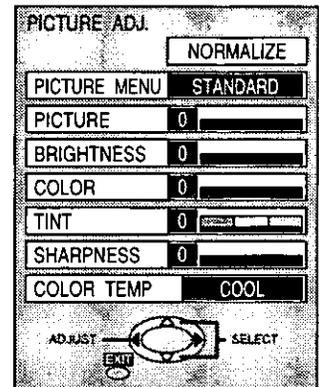
NORMAL is displayed at default.



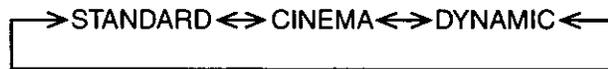
- 2** Press to select the menu to adjust each item.



Select the desired level by looking at the picture behind the menu.



Press the left ◀ or right ▶ button to switch between modes.

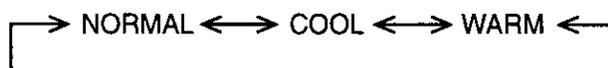


STANDARD
Displays unaltered image.

CINEMA
Ideal for movies.

DYNAMIC
Displays a clear screen with contrast of light and dark.

Press the left ◀ or right ▶ button to switch between modes.



see next page

Picture Adjustments (for TV, VIDEO input mode)

PICTURE

Selects proper brightness and density for the room.

BRIGHTNESS

Adjusts for easier viewing of dark pictures such as night scenes and hair.

COLOR

Adjusts slightly to a lighter color.

TINT

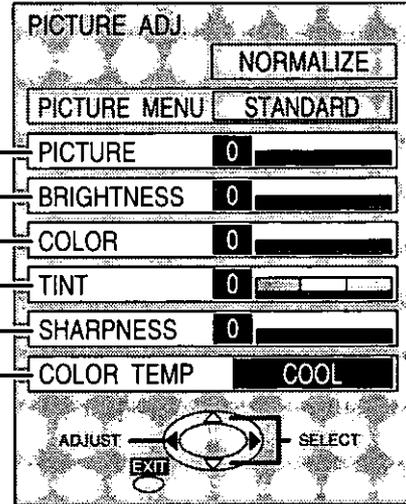
Adjust for nice skin color.

SHARPNESS

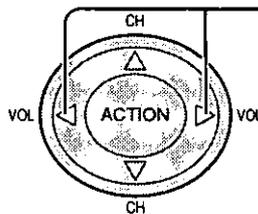
Displays a sharp image.

COLOR TEMP (Color Temperature)

classifying white light.

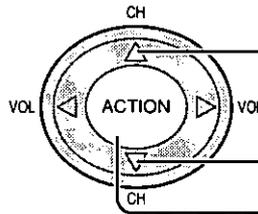


- To adjust each item, →



Press the up ▲ and down ▼ button and make adjustments using the left ◀ and right ▶ buttons.

- To reset to standard setting, →



Select NORMALIZE with the up ▲ and down ▼ buttons.

Press ACTION.

- To end adjustments. →



Press MENU button.



Helpful Hint (/ Normalization)

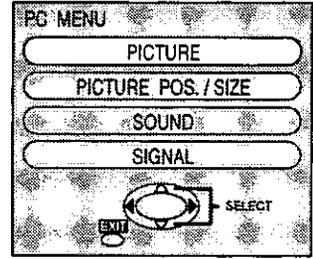
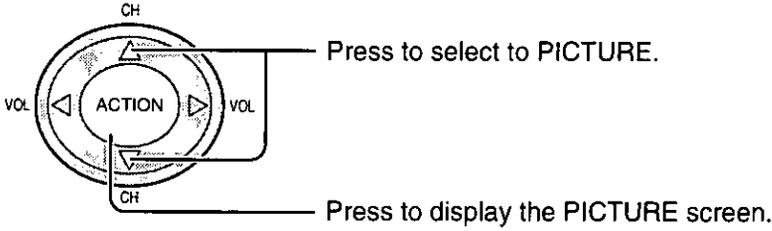
While the "PICTURE" menu is displayed, if either the NORMAL button on the remote control is pressed at any time or the ACTION button is pressed during "NORMALIZE", then all adjustment values are returned to the factory settings.

Note:

There is little change when PICTURE is increased with a bright picture or reduced with a dark picture.

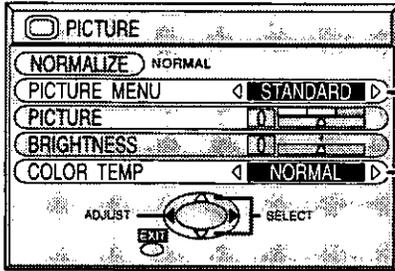
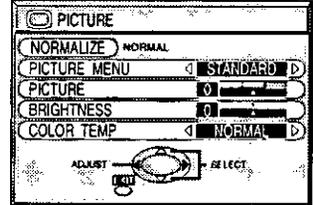
Picture Adjustments (PC input mode)

- 1 Press the MENU button to display the MENU screen and select ADJUST.



NORMAL is displayed at default.

- 2 Press to select the menu to adjust.
Select the desired level by looking at the picture behind the menu.



Press the left ◀ or right ▶ button to switch between modes.

STANDARD ↔ DYNAMIC

STANDARD
Displays unaltered image.

DYNAMIC
Displays a clear screen with contrast of light and dark.

- To end adjustments. → Press MENU button.

Press the left ◀ or right ▶ button to switch between modes.

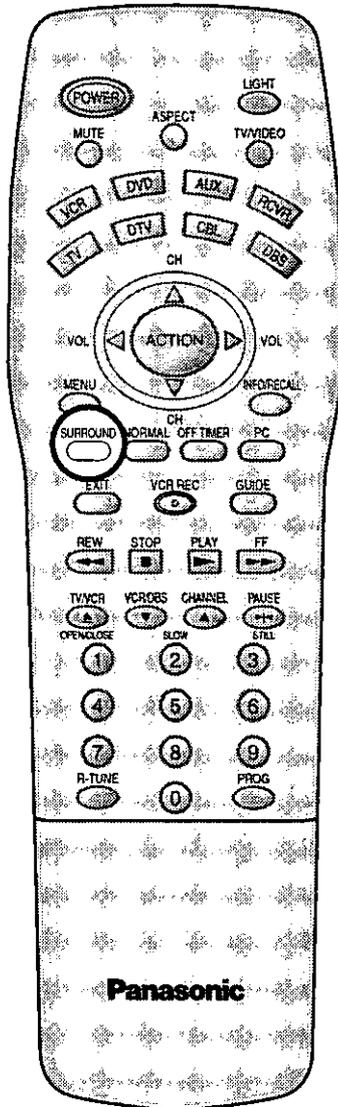
NORMAL ↔ COOL ↔ WARM

Item	Effect	Adjustment
PICTURE	◀ Less ▶ More	Selects the proper brightness and density for the room.
BRIGHTNESS	◀ Darker ▶ Brighter	Adjusts for easier viewing of dark pictures such as night scenes an black hair.

Helpful Hint (/ Normalization)

While the "PICTURE" menu is displayed, if either the NORMAL button on the remote control is pressed at any time or the ACTION button is pressed during "NORMALIZE", then all adjustment values are returned to the factory settings.

SURROUND Controls



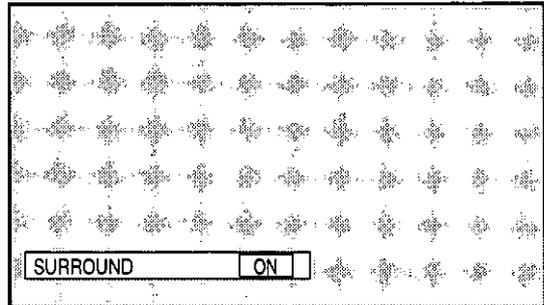
SURROUND Button

The benefits of surround sound are enormous. You can be completely enveloped in sound, just as if you were at a concert hall or cinema.

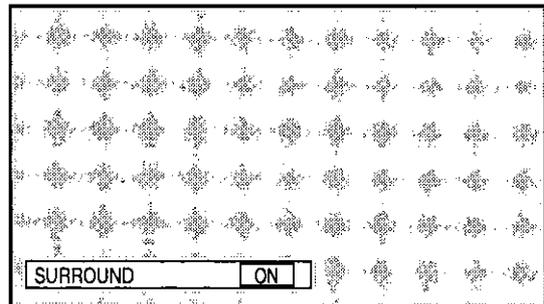
The surround setting switches on and off each time the SURROUND button is pressed.

ON ↔ OFF

TV, VIDEO INPUT MODE



PC INPUT MODE



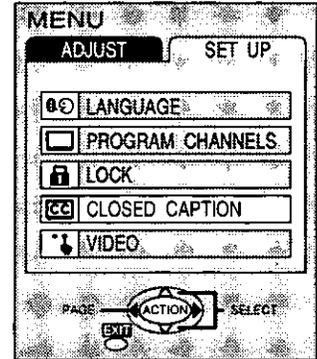
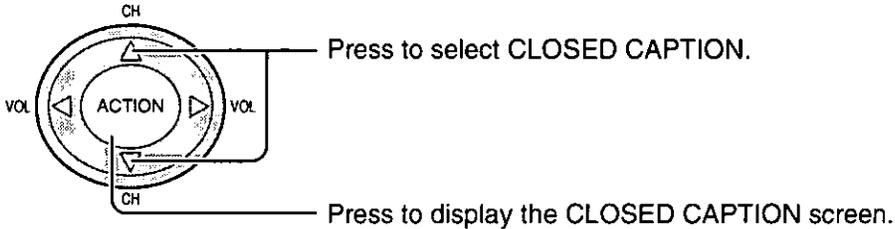
Note:

The surround settings are memorized separately for each SOUND mode (AUTO, STANDARD).

Closed Captions

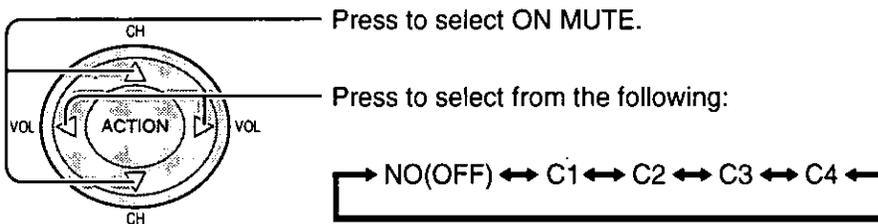
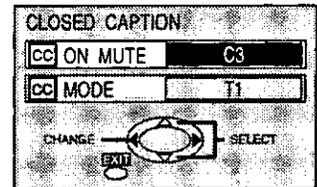
This unit has a built in decoder that provides a visual depiction of the audio portion of a television program in the form of written words across the screen (white or colored letters on a black background). It allows the viewer to read the dialogue of a television program or other information.

- 1 Press the MENU button to display the MENU screen and select SETUP.
(Except in PC input mode)



- 2 **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 functions when the Closed Caption Mode is in the "OFF" position. The program being viewed must be broadcast with Closed Caption.

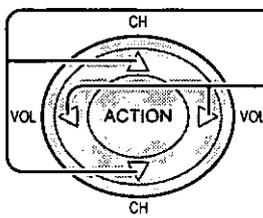
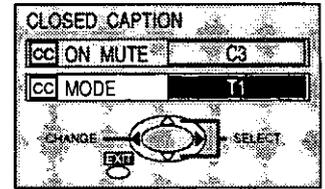


Notes:

- Recommended menu Set Up for Closed Caption when using Mute Button.
CC ON MUTE : C1
CC MODE : OFF
- The setting for CC ON MUTE is valid only when the CC MODE is OFF, CC MODE set to ON will override CC ON MUTE.
This menu cannot be selected when the picture is displaying a COMPONENT VIDEO INPUT of 480i or more.
- When aspect is ZOOM, Closed Caption cannot be used.

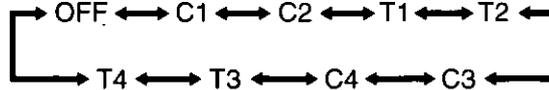
3 **CC** MODE

Activates the On-Screen Closed Caption feature. When activated this feature will remain on until OFF is selected in this menu.



Press to select CC MODE.

Press to select from the following:



- **CAPTION OFF** - Recommended mode when Closed Caption is not being used.
- **CAPTION C1** - For video related information that can be displayed (up to 4 lines of script strategically placed on the television screen so that it does not obstruct relevant parts of the picture).
- **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.

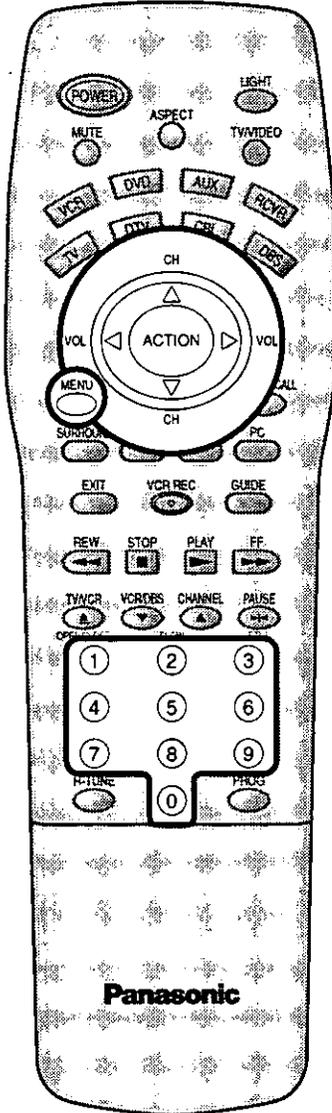
- To end adjustments →  Press MENU button.

Lock Feature

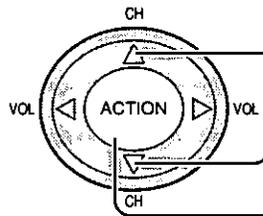
In the United States, the V-CHIP consists of two rating systems, which are MPA (MOTION PICTURE) and TV PARENTAL GUIDELINES. Its function is to block programs by the rating data in the XDS data packets sent from broadcasting stations. The user can select which rating programs should be blocked by the LOCK MENU options.

Note: The V-CHIP, used in this unit model, is capable of selecting the U.S. ratings that are indicated in this manual.

Press the MENU button to display the MENU screen and select SETUP.
(Except in PC input mode)

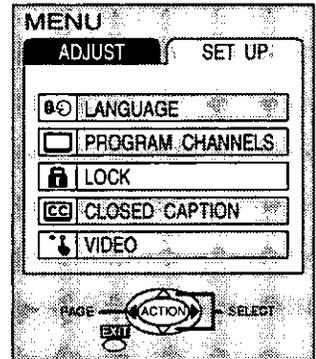


1



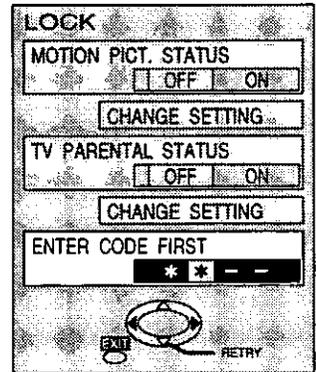
Press to select LOCK.

Press to display the LOCK screen.



Input code

Enter any 4-digit number as a password. These numbers will be needed when deactivating the LOCK function.

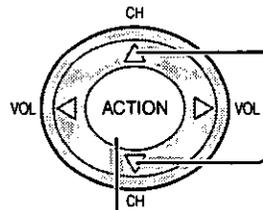


Note:

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

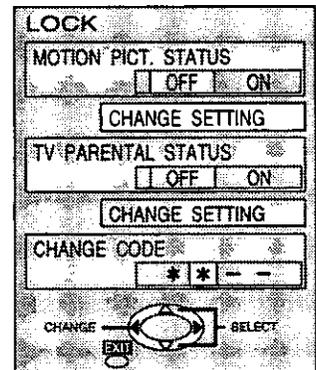
2

Selecting broadcasts to lock.

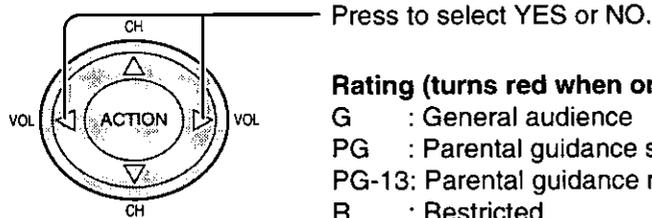
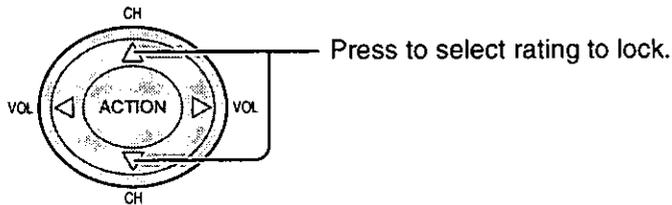


Press to select CHANGE SETTING (the menu following MOTION PICT. STATUS).

Press to display the MOTION PICTURE RATING screen.

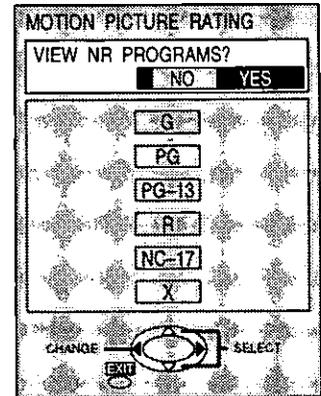
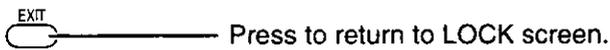


3



Rating (turns red when on)

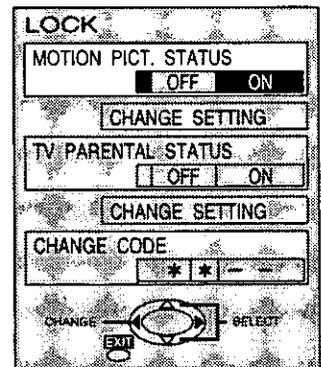
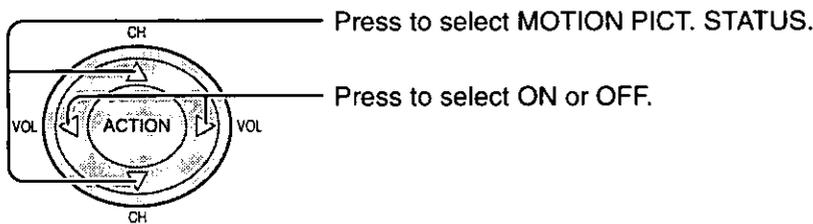
- G : General audience
- PG : Parental guidance suggested
- PG-13: Parental guidance needed under 13 years old
- R : Restricted
- NC17 : No one under 17 is admitted
- X : Pornography



4

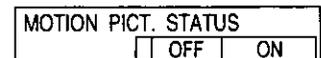
Setting MOTION PICT. STATUS.

Locking and unlocking the ratings selected above.



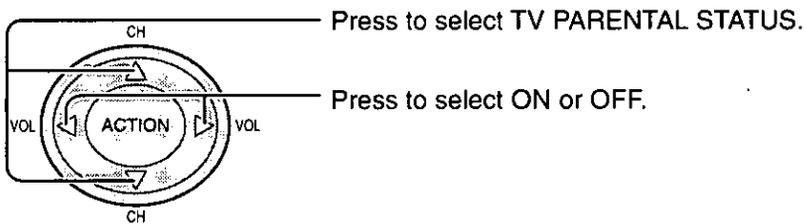
ON : The broadcasts selected in the MOTION PICTURE RATING menu cannot be viewing.

OFF: LOCK is deactivated and any broadcast, regardless of the setting for MOTION PICTURE RATING, can be viewing.

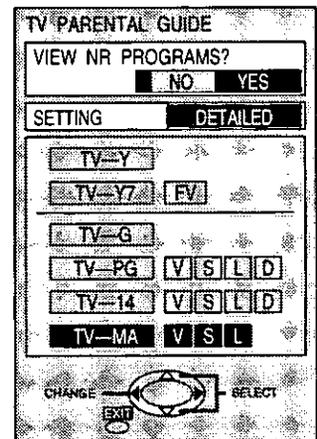
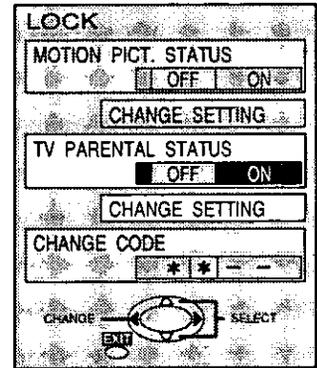
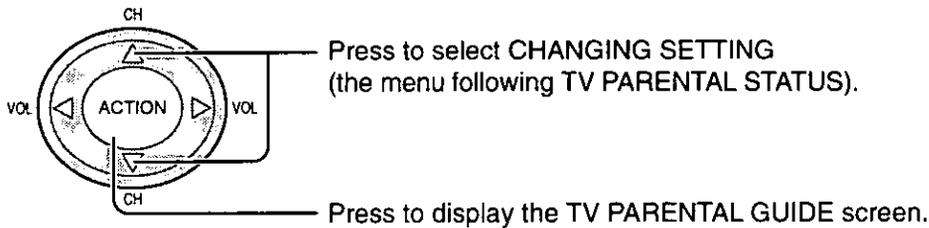


Lock Feature

TV PARENTAL STATUS



▼ Changing setting



Setting the TV PARENTAL PROGRAMS screen

VIEW NR PROGRAMS?

- NO : Cannot view programs with NR signals.
- YES : Can view programs with NR signal.

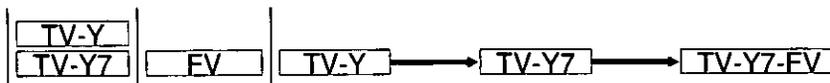
SETTING

- BASIC : The up ▲ and down ▼ buttons change the selected title.
- DETAILED : The cursor selecting the title can be moved to select options displayed on the right. The down ▼ buttons moves the cursor to the right if options are available. The up ▲ buttons moves the cursor to the left and if there are no options to the left, the cursor will move up.

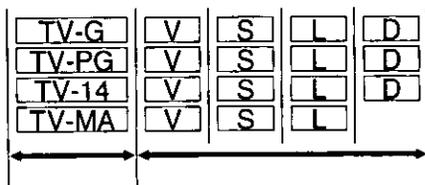
Locking and unlocking

- When a title field is selected, all ratings below this rating are selected.
- When options within an option field are selected, ratings below this rating within the same field are selected.
- Ratings displayed in green are unlocked and those displayed in red are blocked programs.

1. Ratings for children: These ratings are divided into ranks as follows.



2. Ratings for teenagers: These ratings are the same as the matrix system. This system is described in the below diagram. Ratings for all ages are on top and ratings for adults are on the bottom.



• To end adjustments →



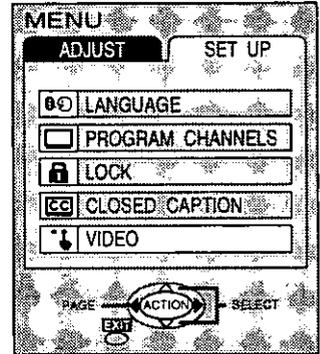
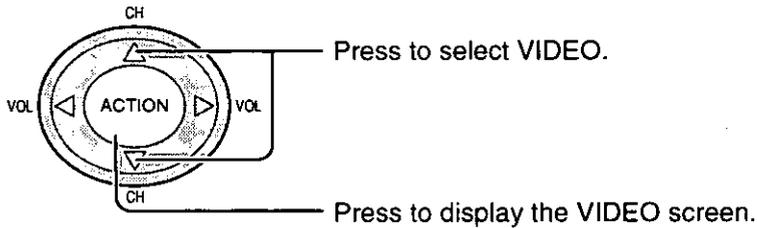
Press MENU button.

Customizing the VIDEO INPUT labels

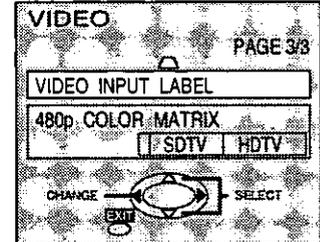
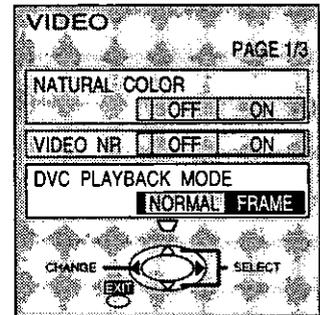
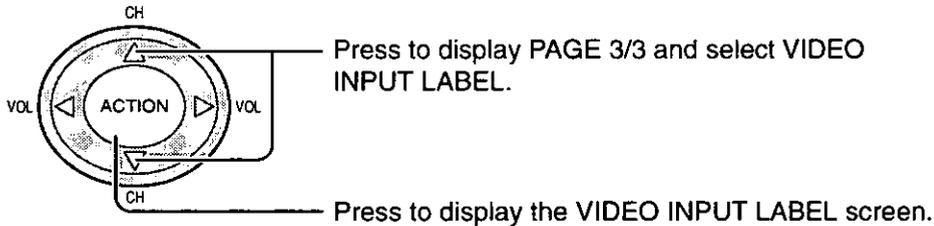
Display for each VIDEO INPUT can be changed to match with the connected device (VCR, DVD Player).

Example: When changing VIDEO 3 to LD.

- 1 Press the MENU button to display the MENU screen and select SETUP.
(Except in PC input mode)



- 2 Press to display PAGE 3/3 and select VIDEO INPUT LABEL.
Press to display the VIDEO INPUT LABEL screen.

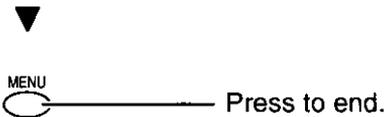
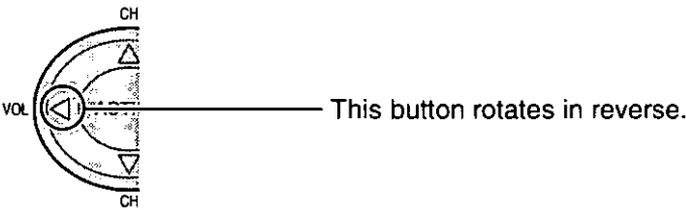
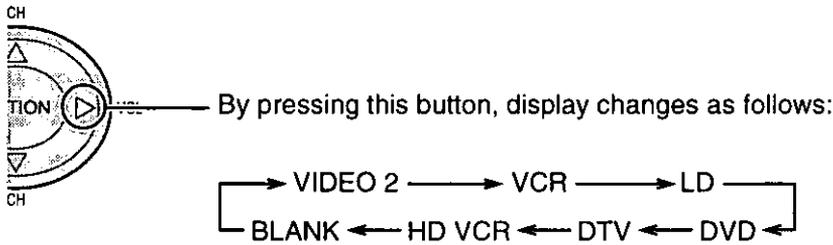
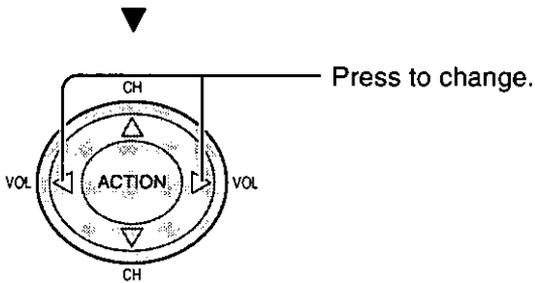
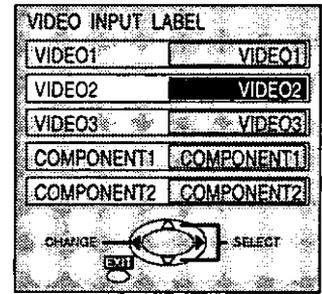
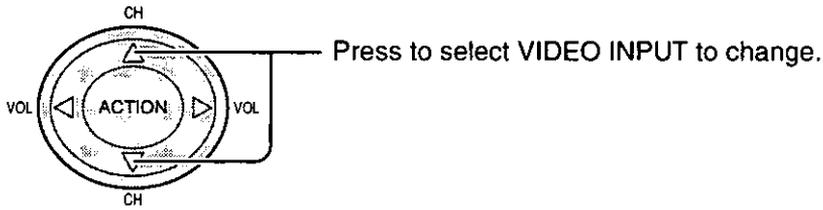


Note:

The VIDEO screen consists of 3 pages.
Use the up ▲ and down ▼ buttons to change pages.

Customizing the VIDEO INPUT labels

3

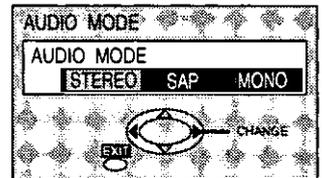
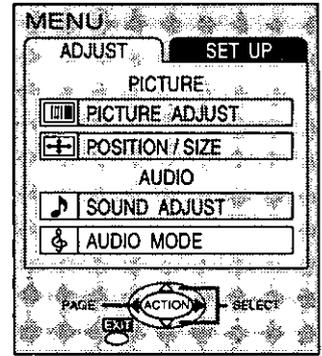
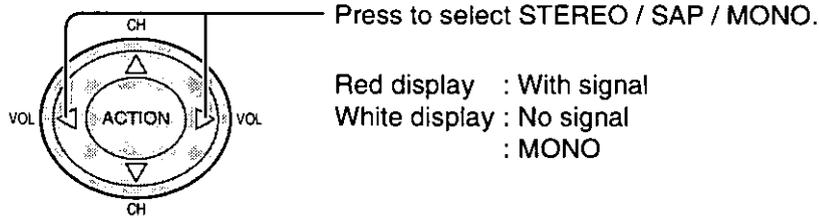
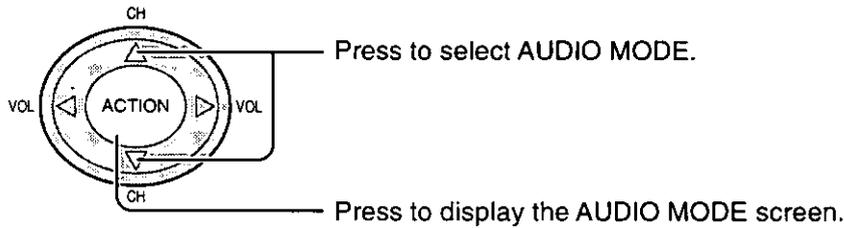


Note:

When DVD or DTV is selected for the change, images are adjusted to match each input signal.

Selecting STEREO / SAP / MONO

Press the MENU button to display the MENU screen and select ADJUST.
(Except in PC input mode)



Red display : With signal
White display : No signal
: MONO

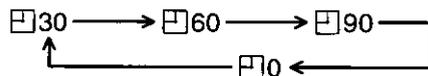
Helpful Hints:

- **STEREO** - Two channel Audio reception.
- **SAP** - Second Audio Programming (typically used for bilingual audio).
- **MONO** - Use when stereo signal is weak.

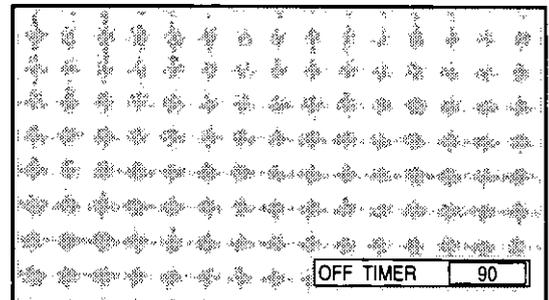
Using the OFF-TIMER

1 Press the OFF TIMER button to display the OFF TIMER screen.

The Wide Plasma Display may be preset to switch to stand-by after a fixed period. The setting changes to 30 minutes, 60 minutes, 90 minutes and 0 minutes (off timer cancelled) each time the button is pressed.



When three minutes remain, "Off timer 3" will flash. The off timer is cancelled if the main supply fails.



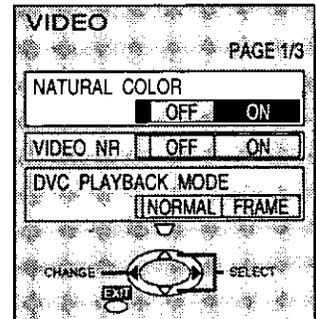
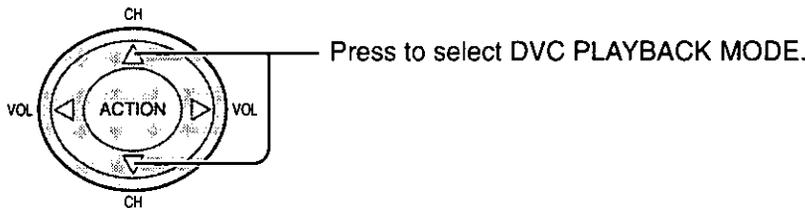
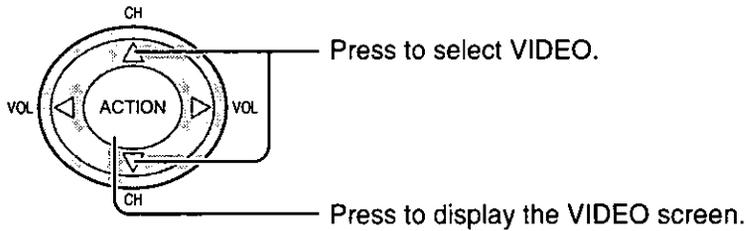
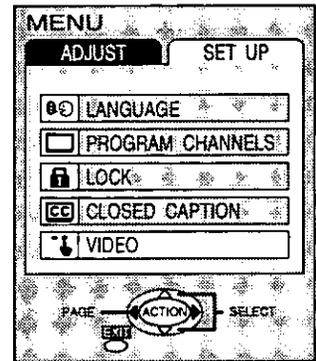
Notes:

- When power to this unit set is disrupted due to a power outage or similar problem, after power is restored, the off-timer will be deactivated and this unit will be in standby mode.
- To see the remaining sleep time, press the INFO/RECALL button.

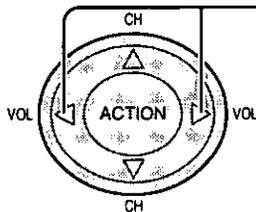
Optimizing display for DVC recording mode (DVC PLAYBACK MODE)

When digital video camera recording is in FRAME, images will have high resolution.

- 1** Press the MENU button to display the MENU screen and select SETUP.
(Except in PC input mode)



- 2** Press to set.
- NORMAL :When playing normal images.
FRAME :When displaying FRAME recording mode.



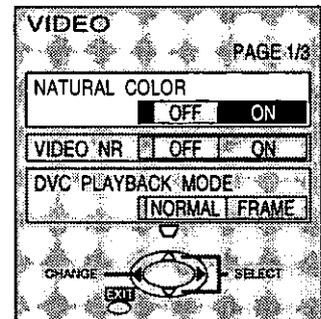
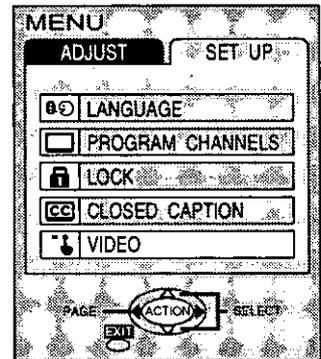
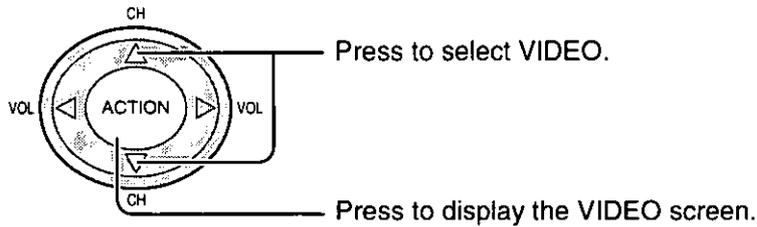
Notes:

- Switches only during VIDEO INPUT 1-3 modes.
- If normal images are viewed in FRAME mode, moving pictures may appear awkward. Switch to NORMAL.
- The VIDEO screen consists of 3 pages.
- Use the up ▲ and down ▼ buttons to change pages.

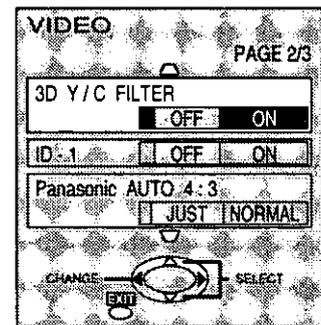
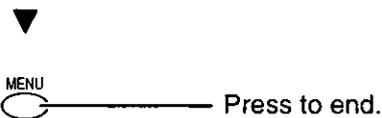
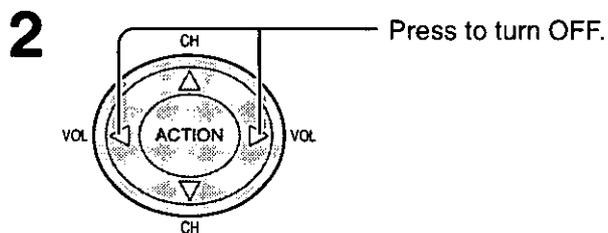
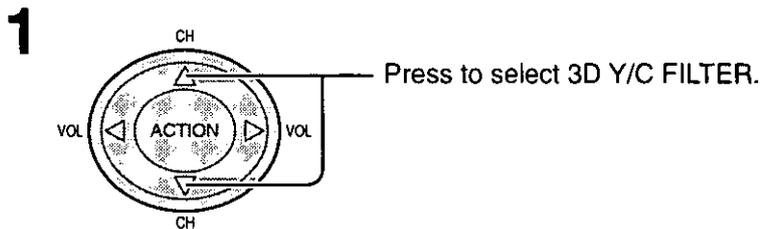
Adjusting unnatural video images (3D Y/C FILTER)

Selecting the VIDEO menu

Press the MENU button to display the MENU screen and select SETUP.
(Except in PC input mode)



Switching to 3D Y/C FILTER



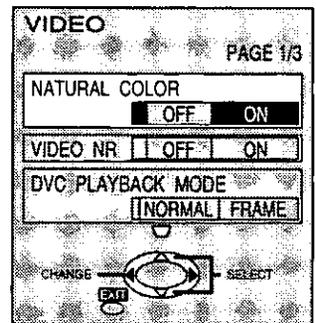
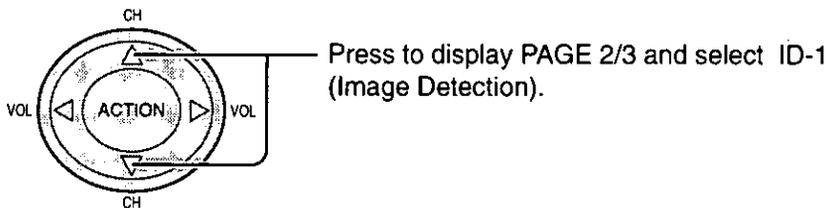
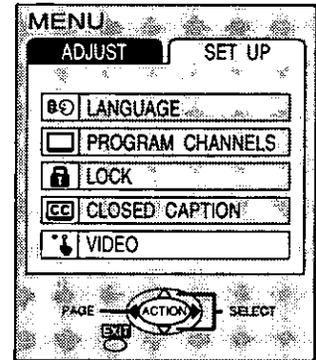
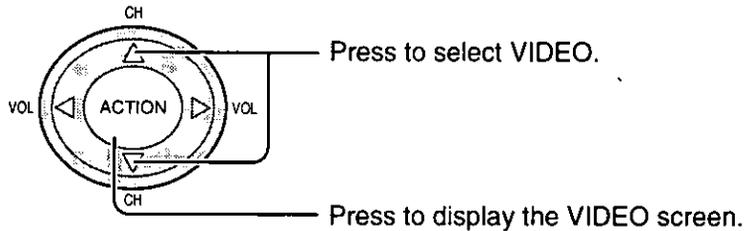
Notes:

- The VIDEO menu is made up of 3 pages.
Use the up ▲ and down ▼ buttons to change pages.
- Not available for COMPONENT VIDEO 1 – 2.

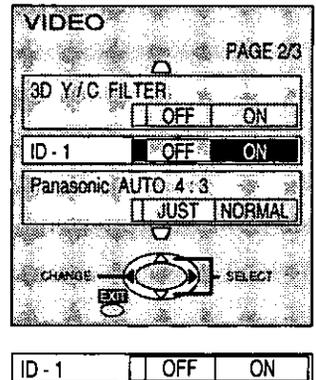
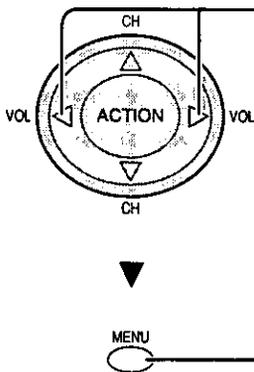
Automatically changing screen size for VIDEO INPUT modes

If the received signal contains screen size specifications in VIDEO INPUT (1 – 3) or COMPONENT VIDEO INPUT (1 – 2), the screen size is automatically changed.

- 1** Press the MENU button to display the MENU screen and select SETUP.
(Except in PC input mode)



- 2** Press to set.
- ON : When screen size specification signals are detected, screen size is automatically changed.
- OFF : The screen size is not automatically changed. (Turn OFF if this function does not operate properly.)
- Press to end.



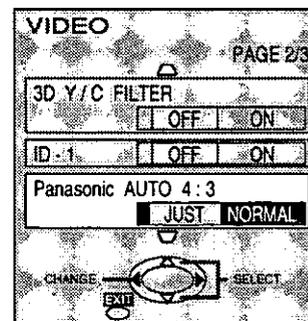
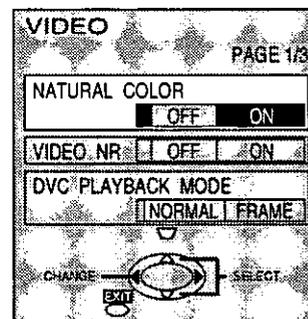
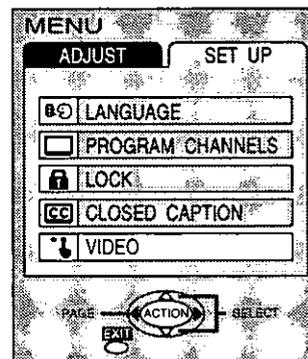
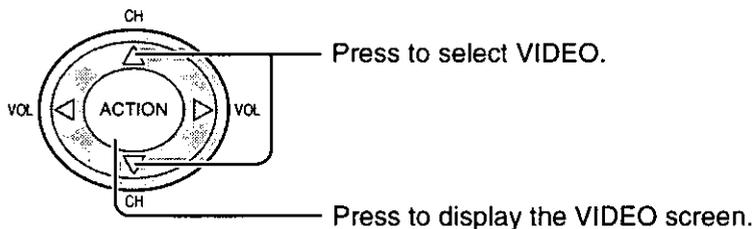
Note:

When ID-1 is detected and screen size is changed, FULL or WIDE will be display. Use the up ▲ and down ▼ buttons to change pages.

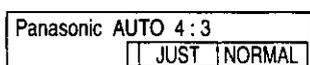
Cancelling automatic enlarging of screen

Used for viewing 4:3 images in Panasonic auto mode. (See page 23)

- 1 Press the MENU button to display the MENU screen and select SETUP.
(Except in PC input mode)



- 2 Press to display PAGE 2/3 and select Panasonic AUTO.
Press to select NORMAL.



Displays NORMAL screen for 4:3 images.
Displays JUST screen for 4:3 images.



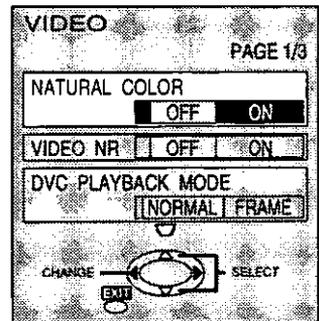
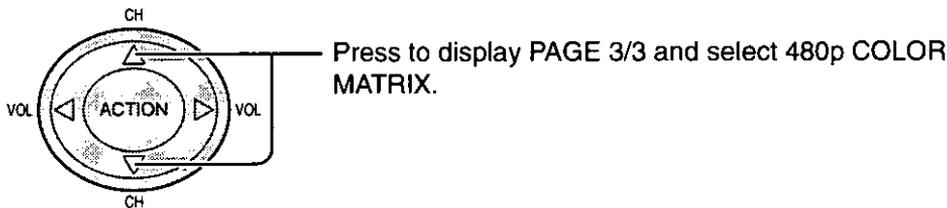
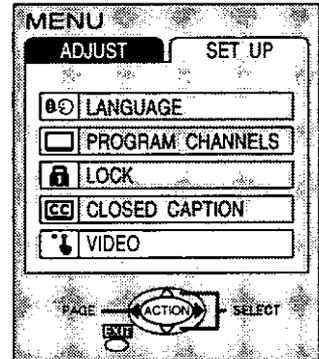
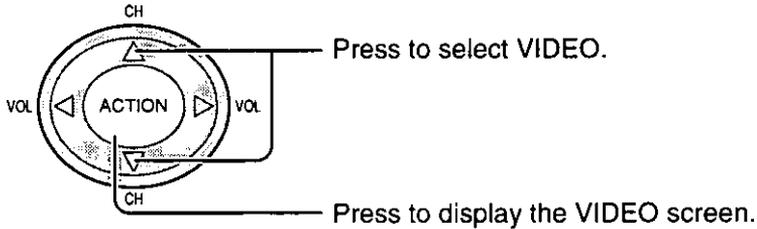
Note:

The VIDEO screen consists of 3 pages.
Use the up ▲ and down ▼ buttons to change pages.

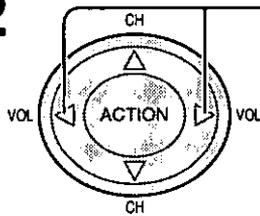
Setting when 480p signals (sequential scan) are input through COMPONENT VIDEO INPUT

Displays input signals (480p signals) in a natural color from digital equipment adapters connected to COMPONENT VIDEO INPUT (Y, P_b / C_b, P_r / C_r input terminals).

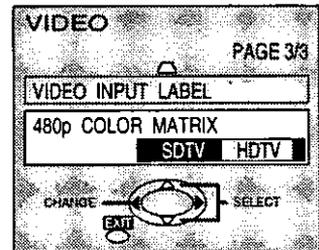
- 1** Press the MENU button to display the MENU screen and select SETUP.
(Except in PC input mode)



- 2** Press to set.



SDTV : When the input signal is a normal TV system (NTSC).
HDTV : When the input signal is a Hi-Definition system (HD).

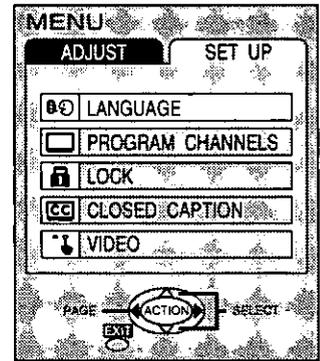
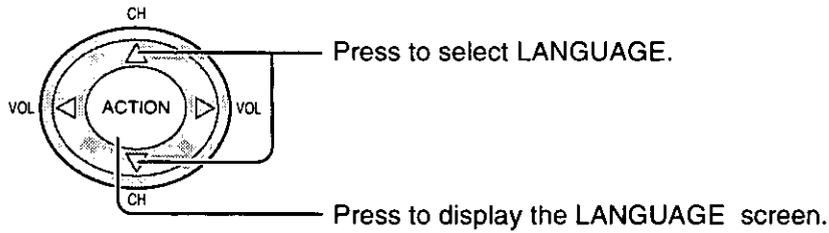


Note:

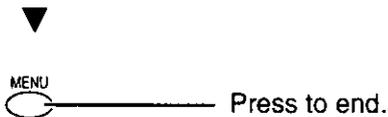
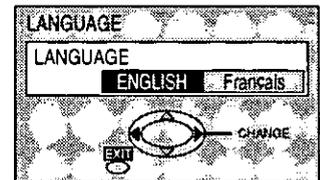
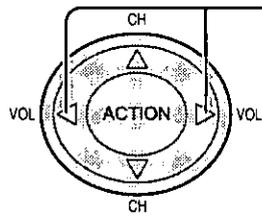
The VIDEO screen consists of 3 pages.
Use the up ▲ and down ▼ buttons to change pages.
480p COLOR MATRIX does not need to be set when using Hi-Definition equipment or 480i output equipment.

Switching languages for display

- 1 Press the MENU button to display the MENU screen and select SETUP.
(Except in PC input mode)

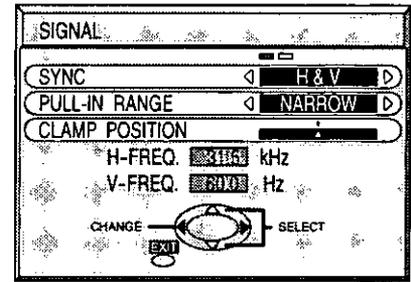
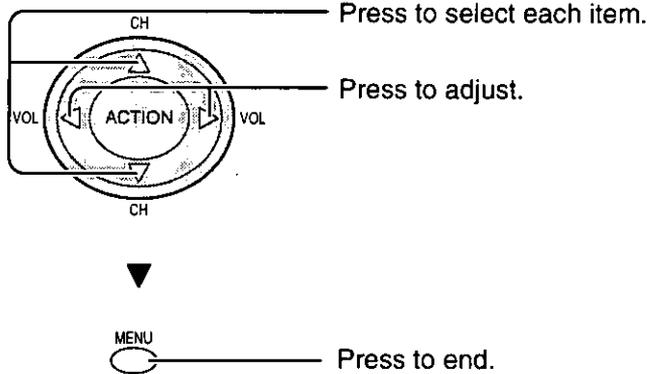


- 2 Press to select preferred language.



SET UP for PC Input Signals

Press the MENU button to display the PC MENU screen, and select PC MENU.

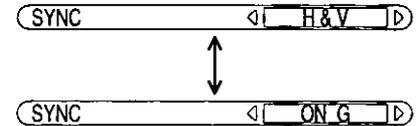


SYNC

Setting PC sync signal setting:

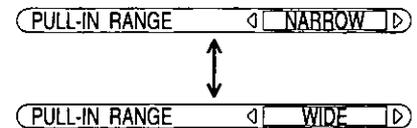
Confirm that the input is set to PC INPUT (this setting is valid only for PC INPUT).

- H&V: The H and V sync signals are input from the HD / VD connector.
- ON G: Uses a synchronized signal on the Video G signal, which is input from the G connector.



PULL IN RANGE

Sets the width for different frequencies.



CLAMP POSITION

Adjusts the clamp position.

The following operation methods are the same for "SIGNAL" menu. Normally, these adjustments are set to appropriate levels and therefore do not need to be altered.



H-FREQ (kHz) / V-FREQ (Hz)

Displays the H (horizontal) / V (vertical) frequencies.

Display range:

- Horizontal 15.5 – 110 kHz
- Vertical 48 – 120 Hz

H-FREQ. 31.5 kHz
V-FREQ. 60.0 Hz

Operating peripheral equipment using the remote control

Programming The Illuminated Remote Control Using Access Codes

The remote control can be preset for other manufactures, by utilizing the **REMOTE MODE SELECTION BUTTONS** for **CABLE, DTV, VCR, RCVR (a Receiver or Amplifier), DVD (DVD, CD, LD), DBS** and **AUX (for Cassette Player or a VCR2.)**

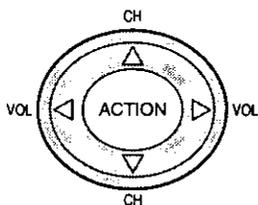
(Details on remote control buttons to operate peripheral equipment → See page 55 to 57 and 58 to 60)

1. Setting up the remote using the numerical keys. (When code known):

1



+



Press and hold the POWER and ACTION keys simultaneously for three full seconds.

After 3 seconds, all the illuminated mode keys will begin to flash. Then let go of the POWER and ACTION keys.

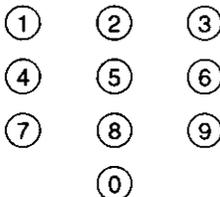
2



Press the desired mode key.

The mode key will illuminate steadily, all others will go out.

3



Enter the three digit set up code, by using the Remote Control Keyboard.

If the correct code is entered, the mode key will blink twice and then go out.

Now your remote is set for this code.

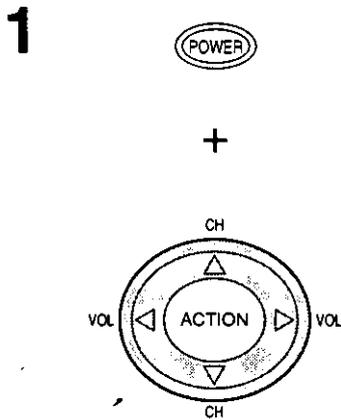
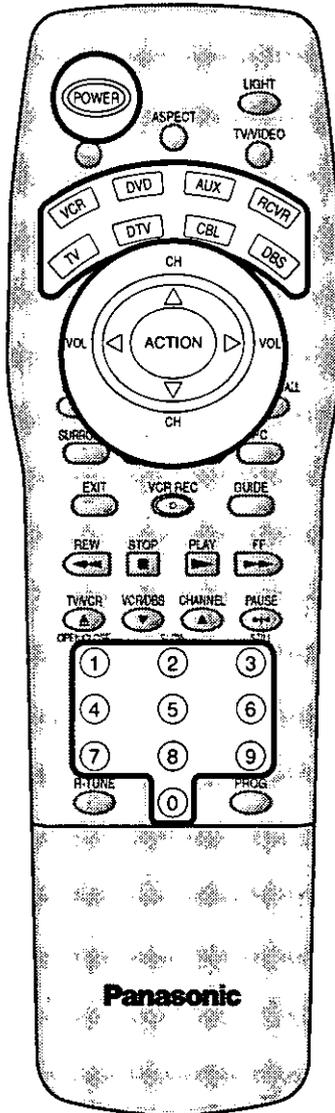
Note:

If an incorrect number is entered (or there is an incomplete entry after 28 seconds), the key illumination goes out (no blink) and setting are unchanged.

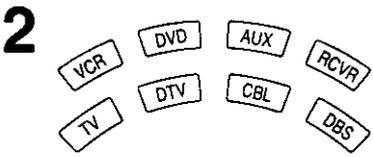
Device	Operate	Default
TV	TV (Only Panasonic)	Panasonic Code
VCR	VCR (Preset)	Panasonic Code
CBL	Cable Boxes (Preset)	Panasonic Code
DBS	DBS Boxes (Preset)	Panasonic Code
RCVR	RCVR (Preset)	Technics Code
AUX	Cassette Players, VCR2 (Preset)	Technics Cassette Players Code
DVD	DVD & LD & CD Player (Preset)	Panasonic DVD Code
DTV	STB (Only Panasonic)	Panasonic Code

Operating peripheral equipment using the remote control

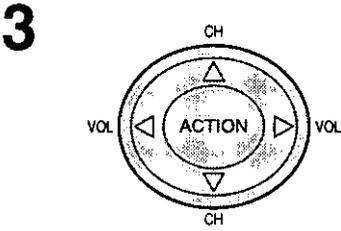
2. Setting to the remote using the step and set method (When code not known):



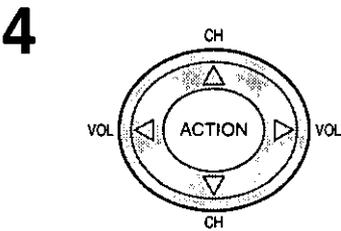
Press and hold the POWER and ACTION keys simultaneously for three full seconds.
After 3 seconds, all the illuminated mode keys will begin to flash. Then let go of the POWER and ACTION key.



Press the mode key.
The mode key will illuminate steadily, all others will go out.



Press VOL "▶" key to step to the next code.
Press POWER to send a test signal in that format.
Continue doing this until the proper device code is found, And the target device responds.



Once the code has been found, press the ACTION key to lock it in.

Notes:

- The step and set mode will start from the current device (not the beginning of the library, except for the first time).
- The step and set mode works in the reverse direction using the VOL "◀" key.

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 Box	<input type="text"/>	VCR Video Cassette Recorder	<input type="text"/>
DBS Digital Broadcast System	<input type="text"/>	RCVR Receiver or Amplifier	<input type="text"/>
_____	<input type="text"/>	_____	<input type="text"/>
Other Component	<input type="text"/>	Other Component	<input type="text"/>
_____	<input type="text"/>	_____	<input type="text"/>
Other Component	<input type="text"/>	Other Component	<input type="text"/>
		CD Compact Disc Player	<input type="text"/>
		LD Laser Disc Player	<input type="text"/>
		_____	<input type="text"/>
		Other Component	<input type="text"/>
		_____	<input type="text"/>
		Other Component	<input type="text"/>

Operating peripheral equipment using the remote control

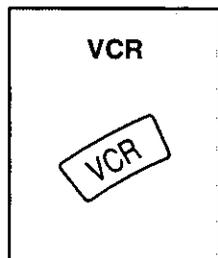
Infrared Codes Index

The remote control is capable of operating many brands of peripheral equipment. Refer to page 56 and 57 for programming procedures.

Note: The remote control memory is limited and therefore some models may not operate. The remote control is not designed to control all features available in all models.

Note: After entering the proper infrared code, press the desired Mode Selection Button on the remote control. Refer to page 16 and 58 to 60 for details on operating peripheral equipment using the remote control.

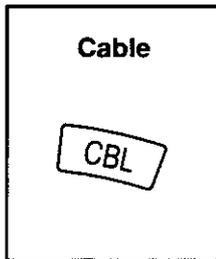
VCR Infrared Codes Index



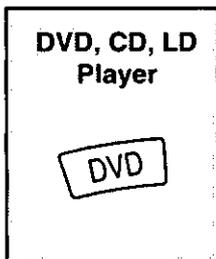
Maker List (VCR)			
Maker	Set Up No.	Maker	Set Up No.
ADMIRAL	200	PANASONIC	125, 130, 100, 101
AIWA	137, 160	PENNEY	130, 000, 300, 005, 240, 010, 011
AKAI	142, 014, 015, 016	PENTAX	000, 011, 300
AUDIO DYNAMIC	240, 011	PHILCO	150, 130, 137, 125, 136, 081
BELL & HOWELL	005, 013	PHILIPS	150, 125, 130
BROKSONIC	081, 136	PIONEER	125
CANON	125, 135	PROSCAN	300, 000, 125, 130, 150, 310, 001, 002
CITIZEN	006	QUASAR	100, 101, 125, 130
CRAIG	005, 141, 006	RADIO SHACK	170, 130, 005, 210, 009, 241, 137
CURTIS MATHES	300, 130, 137	RCA	170, 300, 000, 125, 130, 150, 310, 001, 002
DAEWOO	250, 001, 130	REALISTIC	130, 005, 210, 009, 241, 137
DBX	240, 010, 011	SAMSUNG	220, 002, 004
DIMENSIA	300	SANSUI	240, 136, 081, 520
EMERSON	250, 136, 080, 003, 135, 243, 081	SANYO	005, 009
FISHER	005, 008, 009, 007	SCOTT	001, 002, 004, 009, 230, 241, 330, 340, 136, 081
FUNAI	137, 136, 081	SEARS	005, 006, 007, 008, 000
GE	170, 300, 130	SHINTOM	050
GO VIDEO	220, 512	SHARP	200, 210
GOLDSTAR	006	SIGNATURE 2000	137, 200
HITACHI	125, 300, 000	SINGER	050
INSTANT REPLAY	130, 125	SONY	140, 141, 142
JENSEN	240	SV2000	137
JVC	240, 010, 011, 190	SYLVAVIA	150, 125, 130, 137
KENWOOD	240, 010, 006, 011	SYMPHONIC	137
LXI	137, 006, 000, 007, 008, 005, 009	TASHIRO	006
MAGNAVOX	150, 125, 130	TATUNG	240, 010, 011
MARANTZ	240, 010, 011	TEAC	240, 010, 137, 011
MARTA	006	TECHNICS	100, 101, 125, 130
MEMOREX	130, 009	TEKNIKA	130, 137
MGA	230, 241, 330, 340, 242, 243	TOSHIBA	001, 310
MINOLTA	000, 300	VECTOR RESEARCH	011
MITSUBISHI	230, 241, 330, 340, 242, 243	WARDS	200, 210, 009, 290, 006
MULTITECH	330, 137, 004	YAMAHA	005, 240, 010, 011
NEC	240, 010, 011, 190	ZENITH	290
OLYMPIC	130, 125		
OPTIMUS	140, 100, 200, 006		
ORION	136, 081		

Operating peripheral equipment using the remote control

CABLE CONVERTER BOX AND DVD, CD, LD, PLAYERS Infrared Codes Index



Maker List (CBL)			
Maker	Set Up No.	Maker	Set Up No.
ABC	530	PULSAR	005, 544
ARCHER	544, 531	PUSER	544
CABLEVIEW	005, 544	REALISTIC	544
CITIZEN	522, 005	REGAL	130, 350, 720, 730, 731, 900
CURTIS	130, 131	REGENCY	560
DIAMOND	530, 544, 531	REMBRANT	702, 544, 005
EAGLE	541	SAMSUNG	005
EASTERN	560	SCIENTIFIC ATLANTA	122, 130, 131
GCBRAND	544, 005	SLMARK	005, 001
GEMINI	522	SPRUCER	005, 121
GENERAL INSTRUMENT / JERROLD	360, 530, 531, 532, 533, 520, 521, 522, 122	STARGATE	544, 005
HAMLIN	720, 730, 731, 900, 350, 130	TELEVIEW	001, 005
HITACHI	003, 530	TEXSCAN	810
MACOM	003, 004, 005	TOCOM	700, 701
MEMOREX	542	TOSHIBA	004
MOVIE TIME	544, 005	UNIKA	544, 531
OAK	710, 702, 002	UNIVERSAL	522, 544
PANASONIC	120, 121, 132	VIDEOWAY	006
PHILIPS	541, 542, 006	VIEWSTAR	541, 542
PIONEER	001, 260	ZENITH	280, 000
		ZENITH / DRAKE SATELLITE	000



Maker List (DVD)			
Maker	Set Up No.	Maker	Set Up No.
DENON	100	RCA	110
FERGUSON	110	SABA	110
NORDMENDE	110	SONY	140
MITSUBISHI	150	THOMSON	110
PANASONIC	100	TOSHIBA	130
PIONEER	120	YAMAHA	100

Maker List (LD)			
Maker	Set Up No.	Maker	Set Up No.
PANASONIC	200, 201, 235, 380	SONY	240, 241, 242, 243
PIONEER	370		

Maker List (CD)			
Maker	Set Up No.	Maker	Set Up No.
CARVER	550	PHILIPS	550
DENON	600	PIONEER	430
FISHER	405	QUASAR	501, 530, 500
HARMAN / KARON	459, 460, 462	SANYO	405
JVC	590, 591, 670	SHARP	600
KENWOOD	400, 401, 450, 670	SHERWOOD	459
MAGNAVOX	550	SONY	540
MARANTZ	550	TECHNICS	530, 500, 501
MCNTOSH	460	VICTOR	590, 591, 670
OPTIMUS	430, 459	YAMAHA	402, 403, 404
PANASONIC	500, 501, 530		

Operating peripheral equipment using the remote control

CASSETTE PLAYERS, RECEIVERS, AMPLIFIERS, and DBS Infrared Codes Index

Cassette Players

AUX

Maker List (TAPE)

Maker	Set Up No.	Maker	Set Up No.
PANASONIC	700, 730	TECHNICS	700, 730

Receiver Amplifiers

RCVR

Maker List (RCVR)

Maker	Set Up No.	Maker	Set Up No.
ADMIRAL	110	OPTIMUS	003, 162, 171, 170
AIWA	160, 161	PANASONIC	101, 100, 130
DENON	200, 201, 202	PHILIPS	150
FISHER	004	PIONEER	030, 032
GARRARD	055	QUASAR	101, 100, 130
HARMAN KARDON	057, 150	RCA	003, 030, 162, 171, 170
JENSEN	164	SANSUI	003, 053, 320
JVC	190, 191	SHARP	200, 203
KENWOOD	000, 050	SONY	140
MEGNAVOX	162	SOUNDE SIGH	220
MARANTZ	151	TEAC	054, 055, 053
MCNTOSH	058	TECHNICS	130, 100, 101
NAKAMICHI	031	VICTOR	190, 191
ONKYO	051, 056	YAMAHA	001, 002

DBS

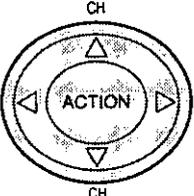
DBS

Maker List (DBS)

Maker	Set Up No.	Maker	Set Up No.
ECHOSTAR	110	PRIMESTAR	391
G.E.	170	RCA	170
HNS (HITACHI)	050	SONY	390
PANASONIC	100	TOSHIBA	000
PHILIPS	001, 002	UNIDEN	001, 002

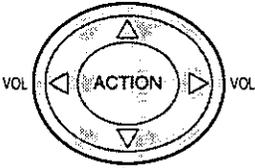
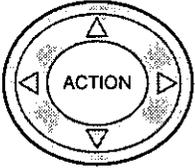
Operating peripheral equipment using the remote control

Remote Control: Quick Reference Functional Key Control

KEY	MODE	FUNCTION
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	TV, DTV, VCR AUX (VCR2) CABLE, DBS	Select Channel
	RCVR (Receiver / Amplifier)	1 Selects Video 1 2 Selects Video 2 3 Selects Video 3 4 Selects Video 4 5 Selects CD 6 Selects Tuner 7 Selects Phone 8 Selects Tape 9 Selects AUX
	DVD (DVD, CD, LD)	Selects Track Number
TV/VIDEO 	TV	Selects TV Input Mode
	ALL COMPONENTS	Turns On and Off Select Components
MUTE 	TV, VCR, DBS, DTV CABLE DVD RCVR (Receiver / Amplifier) AUX (Cassette)	Mutes TV Sound Mutes Cable Sound Mutes TV / RCVR Sound Mutes Audio RCVR Mute
	TV	TV Mode Selection for Remote Control
	CABLE	Cable Mode Selection for Remote Control
	DBS	DBS Mode Selection for Remote Control
	VCR	VCR Mode Selection for Remote Control
	Receiver / Amplifier	Receiver / Amplifier Mode Selection for Remote Control
	Digital Video Disc	DVD (DVD, CD, LD) Mode Selection for Remote Control
	Cassette Tape Player, VCR2	AUX Mode Selection for Remote Control Enables User to Operate a Tape Cassette Player, or VCR2
	TV VCR CABLE DBS DVD (DVD) DVD (CD) DVD (LD) RCVR	TV Channel Up / Down VCR Channel Up / Down Channel Up / Down Channel Up / Down, Navigation Up / Down Navigation Up / Down Next Track / Previous Track Next Chapter / Previous Chapter Tuner + / Tuner -

Operating peripheral equipment using the remote control

Remote Control: Quick Reference Functional Key Control

KEY	MODE	FUNCTION
	TV, VCR CABLE DBS DVD (DVD) DVD (CD) DVD (LD) RCVR	TV Volume Up / Down Cable Volume Up / Down Audio Track + / -, Navigation Right / Left Navigation Right / Left RCVR Volume Up / Down TV Volume Up / Down RCVR Volume Up / Down
	TV CABLE DBS DVD (DVD) DVD (CD) DVD (LD) DTV AUX (Tape Cassette Player)	Selects Previously Tuned Channel Selects Previously Tuned Channel Selects Previously Tuned Channel Selects Previously Title Selects Next Disc Side A / B Prev. Ch Selects Tape Cassette Player A or B
	TV CABLE DBS DTV DVD	Activities TV Menus Enter DBS Action STB Action Select
	TV, CBL VCR DBS DTV DVD (DVD) DVD (CD) DVD (LD)	Display Information (Channel, Time, Audio Mode, Power Save Mode) Display Current VCR Settings Display Current DBS Settings Display Current DTV Settings Display Current DVD Settings Display Time format Display Current LD Settings
	VCR DVD (DVD, LD) DVD (CD) RCVR AUX (Tape Cassette Player)	VCR REW Skip Search << Search REW Surround - Tape REW
	VCR DVD (DVD, LD) DVD (CD) RCVR AUX (Tape Cassette Player)	VCR FF Skip Search >> Search FF Surround + Tape FF
	VCR DVD (DVD, CD, LD) AUX (Tape Cassette Player)	VCR Play Play Tape Play
	VCR DVD (DVD, CD, LD) AUX (Tape Cassette Player)	VCR Stop Stop Tape Stop
	VCR, CABLE DBS DTV AUX (Tape Cassette Player)	VCR Record DBS Record Info (EPG) Tape Record

Operating peripheral equipment using the remote control

Remote Control: Quick Reference Functional Key Control

KEY	MODE	FUNCTION
PAUSE  STILL	VCR DVD (DVD, LD) DVD (CD) AUX (Tape Cassette Player)	VCR Pause Still Pause Tape Pause
TV/VCR  OPEN/CLOSE	VCR DVD (DVD, CD, LD) AUX (Tape Cassette Player)	TV/VCR Switch Open / Close Tape Open / Close
ASPECT 	TV DBS DTV (STB)	TV Aspect DBS Aspect STB Aspect
CHANNEL 	VCR CABLE DBS DVD (DVD) DVD (CD) DVD (LD) RCVR	VCR Channel Up TV Channel Up DBS Channel Up Slow + Repeat LD Side A Center +
VCR/DBS 	VCR CABLE DBS DVD (DVD) DVD (CD) DVD (LD) RCVR	VCR Channel Down TV Channel Down DBS Channel Down Slow - Random LD Side B Center -
SURROUND 	TV	SURROUND
NORMAL 	TV	NORMAL
OFF TIMER 	TV DBS DVD RCVR	OFF TIMER DBS Page Down Skip - Tuner -
PC 	TV DBS DVD RCVR	PC DBS Page Up Skip + Tuner +
EXIT 	TV DBS DTV (STB)	Exit from Menu Screen DBS Exit Exit (EPG)
PROG 	DBS DTV (STB)	DBS Program / Dash STB Program
GUIDE 	DBS DTV (STB)	DBS Guide Guide (EPG)
MENU 	TV DBS DVD (DVD) DVD (CD) DVD (LD) DTV (STB)	TV Menu DBS Menu DVD Menu STB Menu

Troubleshooting

During normal broadcast (VHF / UHF)

Symptoms	Checks	Page
Power does not turn ON.	<ul style="list-style-type: none"> ● Is the power plug plugged in? ● If the power does not turn on using the remote, check if this unit is turned on. ● Confirm that the Wide Plasma Display is connected to the rear DISPLAY OUT terminal (D-SUB) of the tuner using the dedicated display cable. The tuner will not turn ON if connected using a different cable. 	<p>–</p> <p>15</p> <p>10</p>
Remote control does not function.	<ul style="list-style-type: none"> ● Are the batteries dead or inserted incorrectly? ● Is the remote control sensor in direct light of florescent lamps or other strong sources of light? 	<p>6</p> <p>–</p>
Image shakes Image is not clear Color patches or no color.	<ul style="list-style-type: none"> ● Is the antenna or antenna cable old, broken or shorted? ● Is the antenna cable connected properly? ● When using a VCR and selecting channels on this unit, is the TV/VIDEO mode for the VCR set to this unit? 	<p>–</p> <p>8, 9</p> <p>–</p>
Image appears doubled or tripled.	<ul style="list-style-type: none"> ● Is the antenna facing the right direction? ● Is the antenna receiving any signals reflected off mountains or buildings. 	<p>–</p> <p>–</p>
A black stripe appears for a moment when changing channels using the VCR.	<ul style="list-style-type: none"> ● The image distorts when channels are changed. 	<p>–</p>
During Panasonic AUTO mode, the screen size sometimes changes.	<ul style="list-style-type: none"> ● Depending on the program content, even when the screen is supposed to automatically zoom, if the beginning scene is dark, it may take a while for it to zoom. ● During a 4:3 screen, if the top and bottom of the image is dark, it may zoom. 	<p>23, 49</p> <p>–</p>
Images disappear at the top and bottom of the screen.	<ul style="list-style-type: none"> ● When using 16:9 image software, there is no picture at the top and bottom of the screen (cinema vision size software, etc.). 	<p>–</p>
During ZOOM or JUST modes, the image is cut off at the top and bottom.	<ul style="list-style-type: none"> ● Has the screen position been changed? → If so, adjust screen positioning. 	<p>29</p>
Channel number remains displayed.	<ul style="list-style-type: none"> ● Press the INFO/RECALL button. During VIDEO input, channel number is displayed until an image is displayed. 	<p>27</p>
This unit set makes a cracking sound.	<ul style="list-style-type: none"> ● If there are no problem with image or sound, it is the sound of the cabinet shrinking due to room temperature changes. This is not a malfunction. 	<p>–</p>
The top cover may become warm.	<ul style="list-style-type: none"> ● This is normal. To ensure reliable operation, do not block ventilation openings. Do not place objects on the top cover that could become damaged. ● Never cover up the vent holes. Leave at least 4 inches (10 cm) of space above and around the main unit. 	<p>–</p> <p>–</p>

Specifications

Power Source	AC 120 V, 50 / 60 Hz	
Power Consumption		
Average	35 W	
Stand-by	6 W	
Power-OFF	3.5 W	
OUTPUT		
DISPLAY OUT	D-SUB 26-pin	
OUTPUT	VIDEO (Pin Jack Type)	1.0 Vp-p (75 Ω)
	S-VIDEO (Mini DIN 4-pin)	Y: 1 Vp-p (75 Ω) C: 0.286 Vp-p (75 Ω)
	AUDIO L-R (Pin Jack Type × 2)	0.5 Vrms
AUDIO OUT	AUDIO L-R (Pin Jack Type × 2)	0.5 Vrms
INPUT		
INPUT 1 – 3	VIDEO (Pin Jack Type)	1.0 Vp-p (75 Ω)
	S-VIDEO (MINI DIN 4-pin)	Y: 1 Vp-p (75 Ω) C: 0.286 Vp-p (75 Ω)
	AUDIO L-R (Pin Jack Type × 2)	0.5 Vrms
COMPONENT VIDEO 1 – 2	Y	1.0 Vp-p (including synchronization)
	P _B / P _R	±0.35 Vp-p
	AUDIO L-R (Pin Jack Type × 2)	0.5 Vrms
PC IN	D-SUB 15-pin	R / G / B 0.7 Vp-p (75 Ω), HD / VD
	M3 Type	L / R 0.5 Vrms
Channel Capability-181	VHF-12, UHF-56, Cable-125	
FEATURES	CLOSED CAPTION 3D Y/D FILTER V-Chip	
Accessories Supplied	Remote Control Transmitter	EUR511164
	AA (IEC R6) Battery × 2	
Operating Conditions	Temperature: 34 °F – 104 °F (0 °C – 40 °C) Humidity: 20 % – 80 % (non-condensing)	
Dimensions (W × D × H)	14.2 " (360 mm) × 11.1 " (283 mm) × 3.0 " (77 mm)	
Weight (Mass)	8.41 lb. (3.8 kg) Net	

Note:

Design and Specifications are subject to change without notice. Weight and Dimensions shown are approximate.

Customer' Record

The model number and serial number of this product can be found on its rear panel. You should note this serial number in the space provided below and retain this book, plus your purchase receipt, as a permanent record of your purchase to aid in identification in the event of theft or loss, and for Warranty Service purposes.

Model Number TU-PTA500U

Serial Number _____

**Panasonic Consumer Electronics
Company, Division of Matsushita
Electric Corporation of America**
One Panasonic Way Secaucus
New Jersey 07094

**Panasonic Sales Company,
Division of Matsushita Electric
of Puerto Rico Inc. ("PSC")**
Ave. 65 de Infanteria, Km 9.5
San Gabriel Industrial Park,
Carolina, Puerto Rico 00985

Panasonic Canada Inc.
5770 Ambler Drive
Mississauga, Ontario
L4W 2T3