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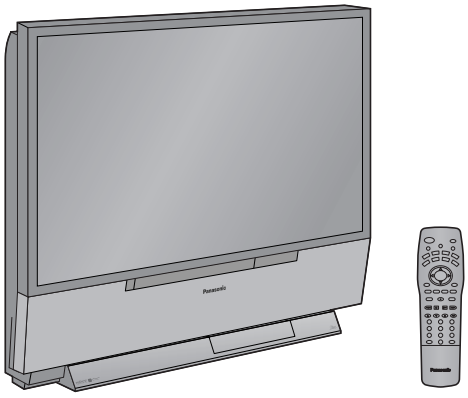
The following projector manual has not been modified or altered in any way.



Panasonic®

Projection Television
Operating Instructions

Model No. **PT-52DL10**

For assistance, please call : 1-888-VIEW PTV(843-9788) **or send e-mail to : consumerproducts@panasonic.com** **or visit us at www.panasonic.com**	**(USA)**
For assistance, please call : 787-750-4300 **or visit us at www.panasonic.com**	**(Puerto Rico)**

TQBC0215-1

Important Safety Instructions

WARNING

RISK OF ELECTRIC SHOCK
DO NOT OPEN

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

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

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

The pictorial representation of a hot surface within a triangle is intended to tell the user that parts inside the product are a risk of burns to persons.

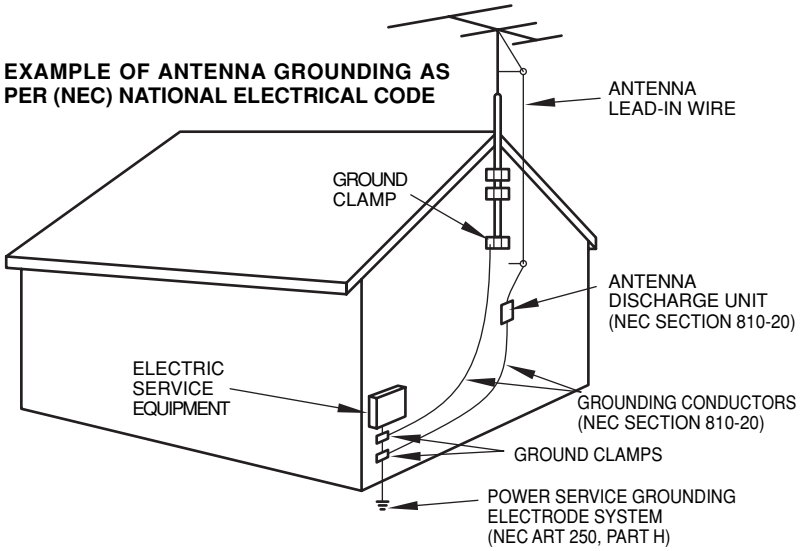
Note to CATV System Installer: This reminder is provided to direct the CATV system installer's attention to Article 820–40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close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

Important Safety Instructions For Projection TV

1. Read and apply the operating instructions provided with your projection TV.
2. Read all of the instructions given here and retain them for later use.
3. Follow all warnings and instructions marked on the projection TV.
4. Unplug this projection TV from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
5. Do not use attachments / accessories not recommended by the projection TV manufacturer as they may cause hazards.
6. Do not use this projection TV near water. For example: Avoid placing it near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.
7. Do not place this projection TV on an unstable cart, stand or table. The projection TV may fall, causing serious injury to a child or adult, and serious damage to the appliance. Use only with a cart or stand recommended by the manufacturer, or sold with the projection TV.

7A. An appliance and cart combination shall be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

8. Slots and openings in the cabinet and the back or bottom are provided for ventilation, and to insure reliable operation of the projection TV and to protect it from overheating. These openings must not be blocked or covered. There shall be at least 10 cm of space from these openings. The openings shall never be blocked by placing the projection TV on a bed, sofa, rug or other similar surface. This projection TV shall never be placed near or over a radiator or heat register. This projection TV shall not be placed in a built-in installation such as a bookcase unless proper ventilation is provided.
9. Operate only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your home consult your television dealer or local power company.
10. This projection TV is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
11. Do not allow anything to rest and to pinch on the power cord. Do not locate this projection TV where the cord will be abused by persons walking on it.



12. Do not overload wall outlets and extension cords as this can result in fire or electric shock.
13. Never push objects of any kind into this projection TV through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the projection TV.
14. If an outside antenna is connected to the television equipment, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. In the U.S.Selection 810 of the National Electrical Code provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure.
15. For added protection for this projection TV during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna. This will prevent damage to the receiver due to lightning and power-line surges.
16. An outside antenna system shall not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system extreme care shall be taken to keep from touching such power lines or circuits as contact with them might be fatal.
17. Unplug this projection TV from the wall outlet, and refer servicing to qualified service personnel under the following conditions:
    a. When the power cord or plug is damaged or frayed.
    b. If liquid has been spilled into the projection TV.
    c. If the projection TV has been exposed to rain or water.
    d. If the projection TV does not operate normally by follow the operating instructions. Adjust only those controls that are covered by the operating instructions as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the projection TV to normal operation.
    e. If the projection TV has been dropped or the cabinet has been damaged.
    f. When the projection TV exhibits a distinct change in performance - this indicates a need for service.
18. Do not attempt to service this projection TV yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
19. When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
20. Upon completion of any service or repairs to this projection TV, ask the service technician to perform routine safety checks to determine that the projection TV is in safe operating condition.
21. **WARNING: To prevent fire or shock hazard, do not expose this appliance to rain or moisture.**
22. **WARNING:** Because the temperature of the lamp unit is elevated immediately after its use, a direct touch to it may cause burns. After the lamp has cooled enough, replace the lamp unit.
23. **CAUTION:** TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH A RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.
24. **CAUTION:** This TV set for use only with TV-stand (Model: TY-S52DL10)
    Use with other stand is capable of resulting in instability causing possible injury.

NOTE: This equipment is designed to operate in the U.S.A..

Dear Panasonic Customer

Welcome to the Panasonic family of customers. We hope that you will have many years of enjoyment from your new projection television 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 serial number of your set in the space provided on the rear cover of these instructions.

Visit our Panasonic Web Site for USA : www.panasonic.com

For assistance, please call : 1-888-VIEW PTV(843-9788) **or send e-mail to : consumerproducts@panasonic.com** **or visit us at www.panasonic.com**	**(USA)**
For assistance, please call : 787-750-4300 **or visit us at www.panasonic.com**	**(Puerto Rico)**

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- DLP are registered trademark of Texas Instruments.
- Certain audio features of this product are manufactured under a license from Desper Products, Inc. Spatializer® and the circle-in-square device are trademarks owned by Desper Products, Inc.
- VGA is a trademark of International Business Machines Corporation.
- Macintosh is a registered trademark of Apple Computer, USA.
- S-VGA is a registered trademark of the Video Electronics Standard Association.

Even if no special notation has been made of company or product trademarks, these trademarks have been fully respected.

FCC STATEMENT:

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference 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.
- Consult the dealer or an experienced radio / TV technician for help.

FCC CAUTION:

To assure continued compliance and prevent undesirable interference, use only the provided shielded VGA cable with 2 ferrite cores (Part# TSXF147) while connecting the Projection TV to a computer. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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

FCC Declaration of Conformity
PT-52DL10

Responsible Party: 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.

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Installation

Receiver Location

This unit is intended to be used with an optional stand or entertainment center. Consult your dealer for available options. Locate for comfortable viewing. Avoid placing where sunlight or other bright light (including reflections) will fall on the screen.
Use of some types of fluorescent lighting can reduce remote control transmitter range.
Adequate ventilation is essential to prevent internal component failure. Keep away from areas of excessive heat or moisture.

Optional External Equipment

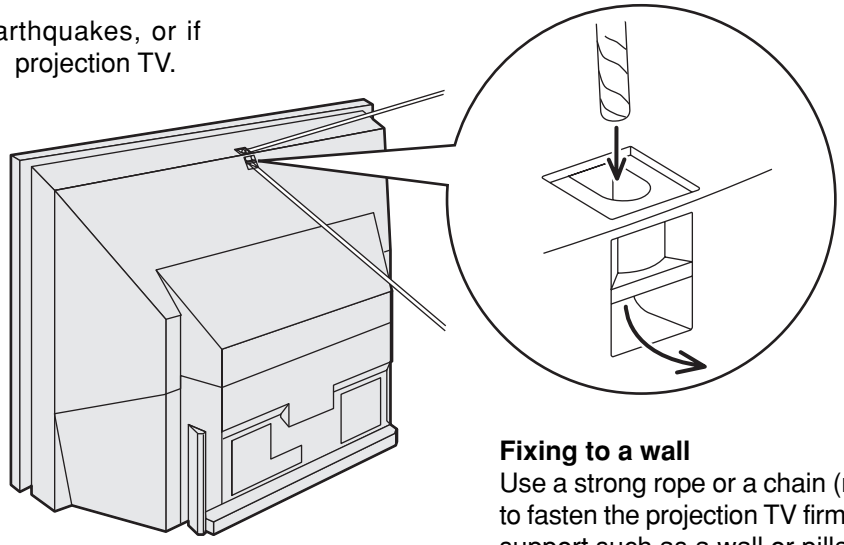
The Video / Audio connection between components can be made with shielded video and audio cables. For best performance, video cables should utilize 75 Ω coaxial shielded cables. Cables are available from your dealer or electronic supply house.
Before you purchase any cables, be sure you know what type 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.

Safety Precaution

Please take safety precautions to prevent the unit from falling over.
The unit may fall over during earthquakes, or if someone stands on or shakes the projection TV.

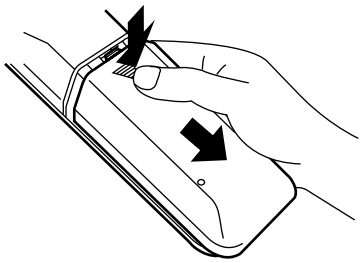


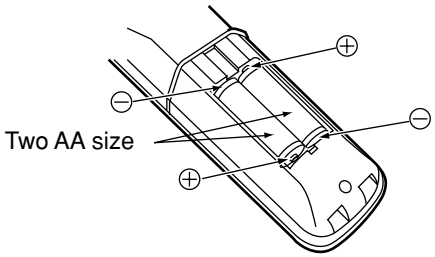
Fixing to a wall
Use a strong rope or a chain (not included) to fasten the projection TV firmly to a strong support such as a wall or pillar.

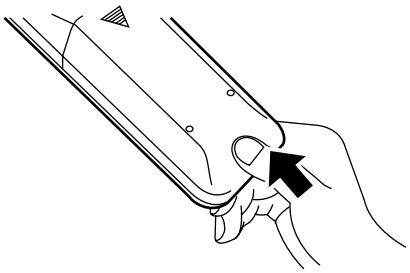
Remote Control Battery Installation

Requires two AA batteries (supplied).

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 batteries with Alkaline batteries for longer life.

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

⚠ Precaution on battery use

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

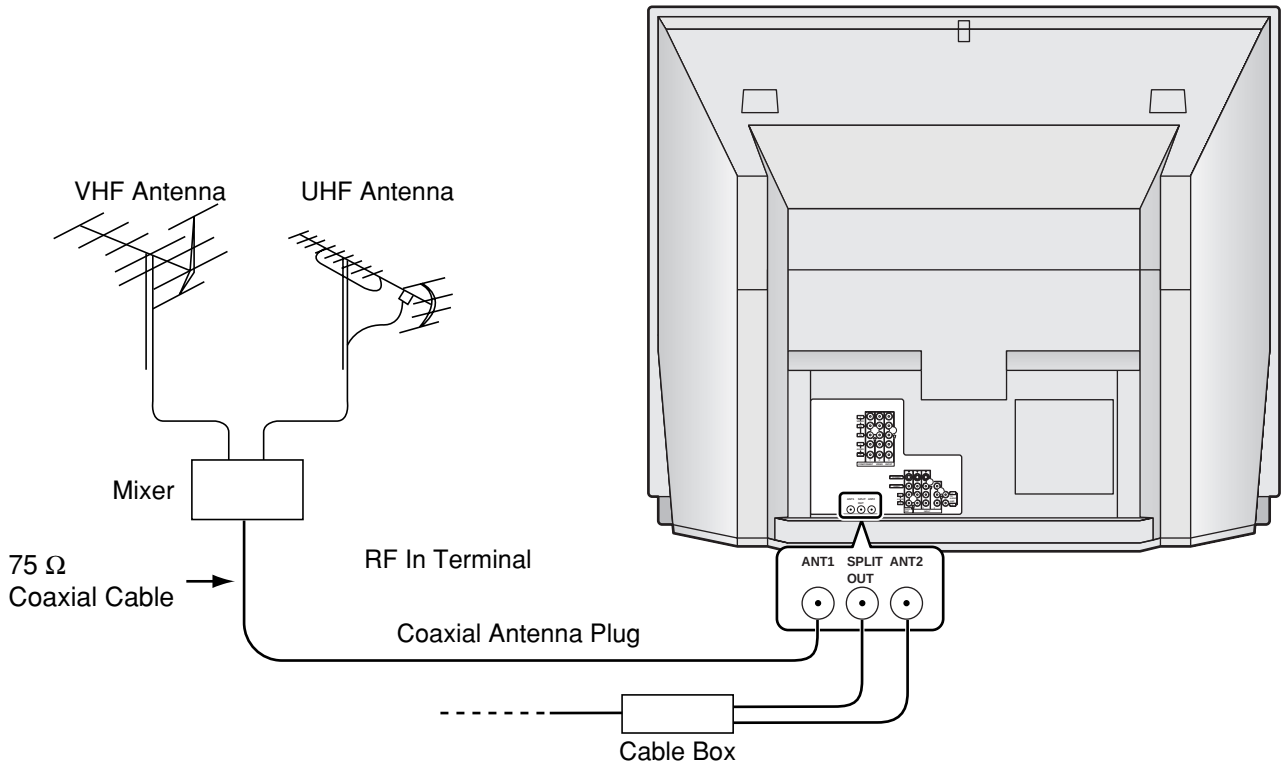
1. Batteries should always be replaced as a pair. Always use new batteries when replacing the old set.
2. Do not combine a used battery with a new one.
3. Do not mix battery types (example: “Zinc Carbon” with “Alkaline”).
4. Do not attempt to charge, short-circuit, disassemble, heat or burn used batteries.
5. Battery replacement is necessary when the remote control acts sporadically or stops operating the projection TV set.

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 64, prior to setting up the remote.

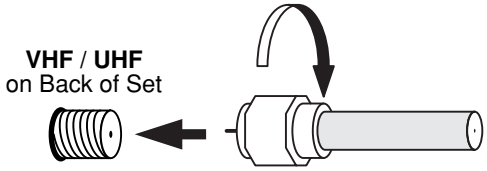
Connecting the Antenna Cable to the RF In Terminal

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 projection TV.



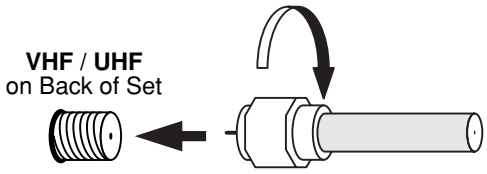
Antenna / Cable Connection

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.)

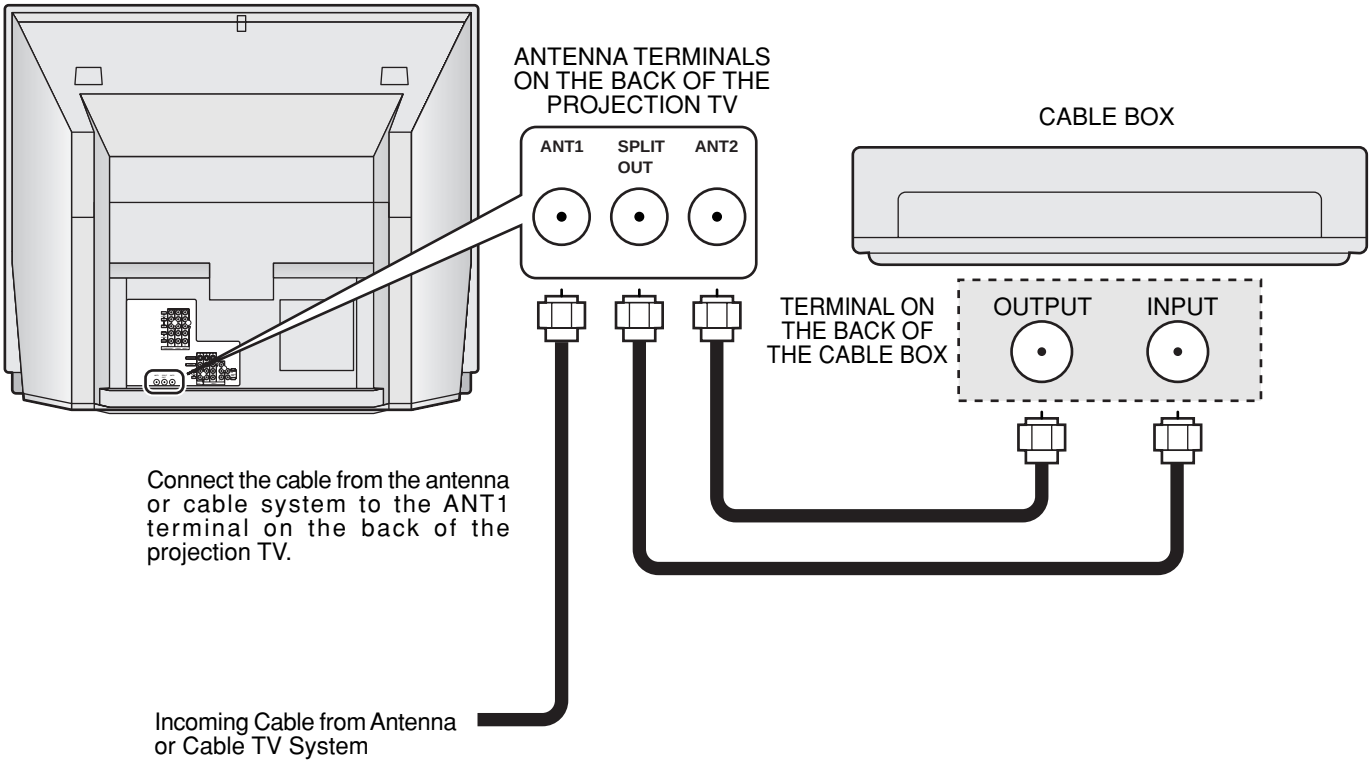
Incoming 75 Ω Cable (From Cable Company)



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.

Antenna Connection (Cable Box, no VCR)

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

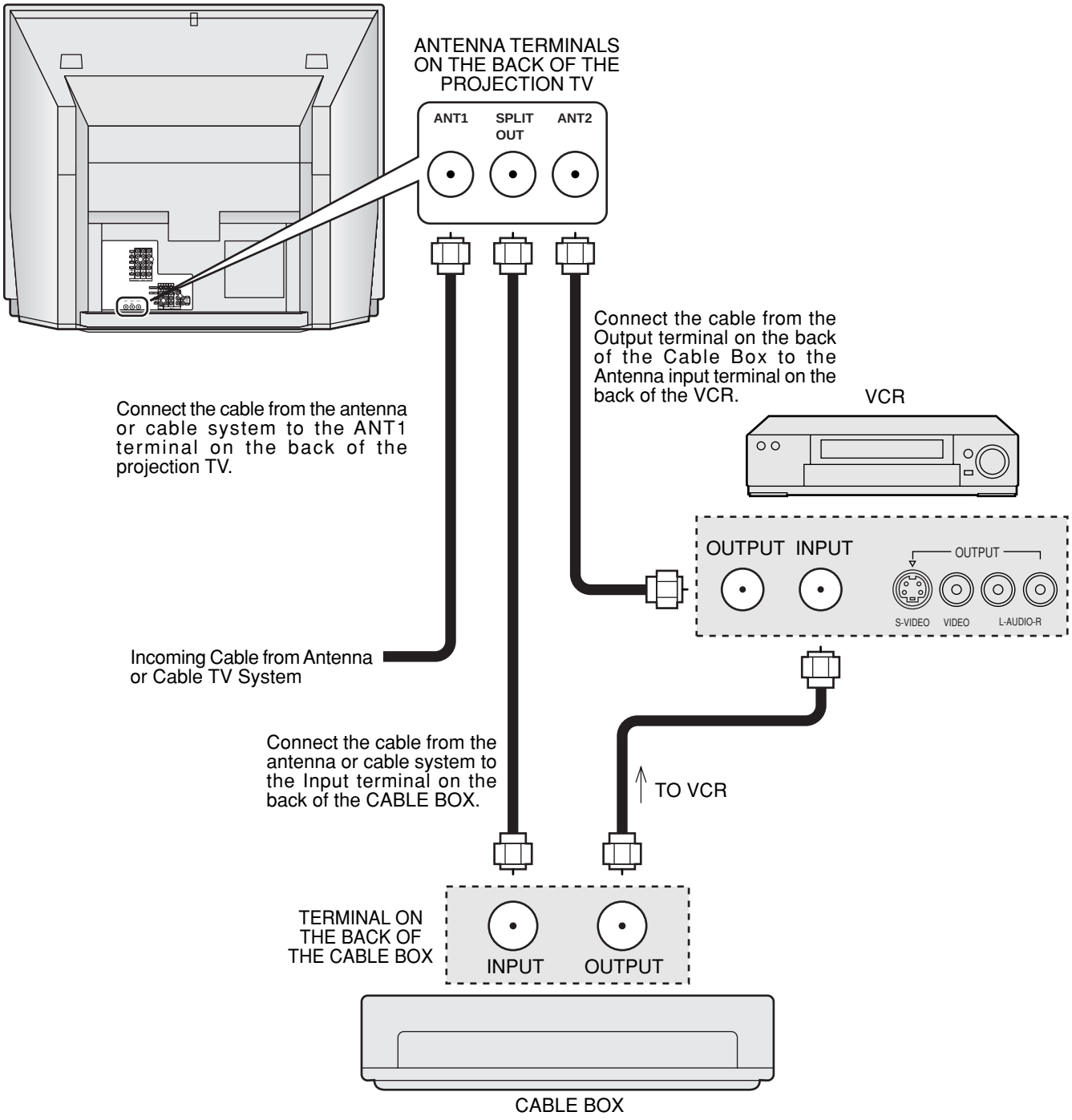


Notes:

- When the antenna cable is connected to the projection TV antenna terminal via a cable box or VCR, set the TV channel to CH3 or CH4 cable, after select ANT2 in the PROGRAM CHANNELS. (See page 24, 26) This does not apply when signal is input from VIDEO INPUT.
- To use special features such as Favorite Channel Captions, ANT1 must be selected in the PROGRAM CHANNELS. (See page 24, 26)

Antenna Connection (Cable Box, and VCR)

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

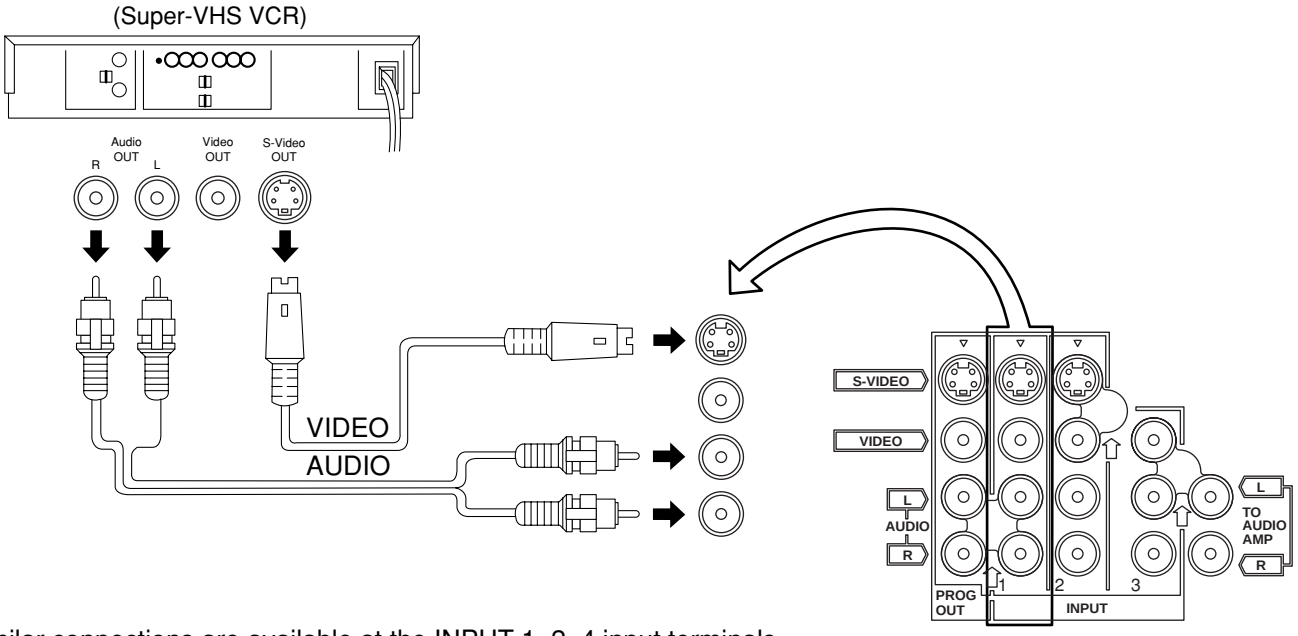


Notes:

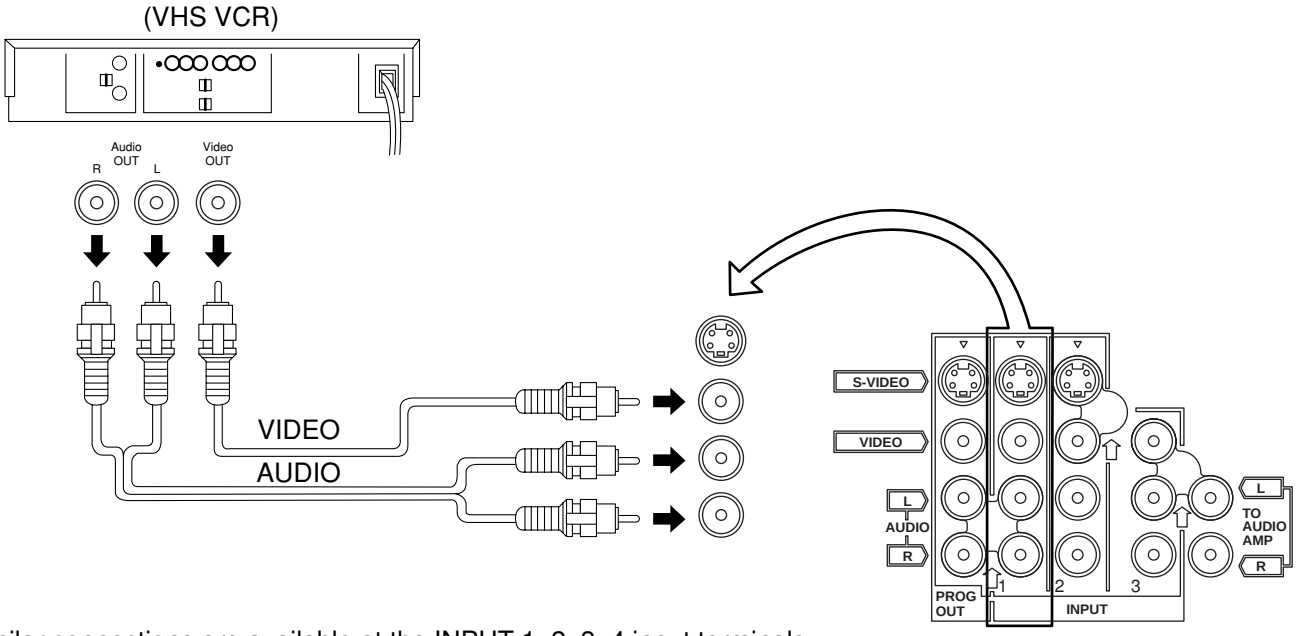
- When the antenna cable is connected to the projection TV antenna terminal via a cable box or VCR, set the TV channel to CH3 or CH4 cable, after select ANT2 in the PROGRAM CHANNELS. (See page 24, 26) This does not apply when signal is input from VIDEO INPUT.
- To use special features such as Favorite Channel Captions, ANT1 must be selected in the PROGRAM CHANNELS. (See page 24, 26)

How to connect the “1, 2, 3, 4” Input Terminals

Connects VCRs and other peripheral equipment



Similar connections are available at the INPUT 1, 2, 4 input terminals.

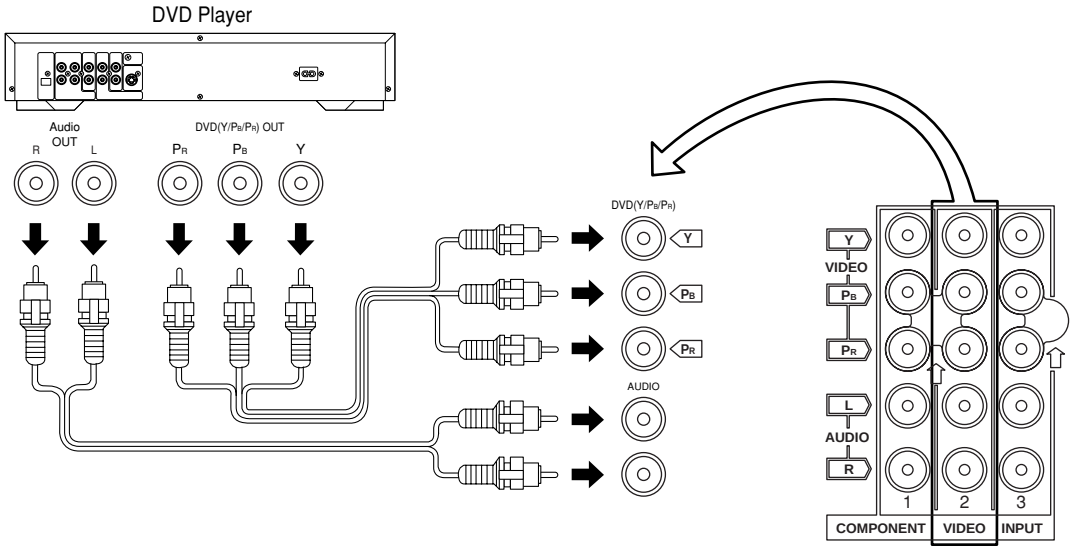


Similar connections are available at the INPUT 1, 2, 3, 4 input terminals.

Notes:

- Similar connections are available at the INPUT 1, 2, 3, 4 input terminals.
  Input 4 is located on the front of the unit.
  Select the desired VIDEO input position by pushing the TV/VIDEO button. (See page 33)
- 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.

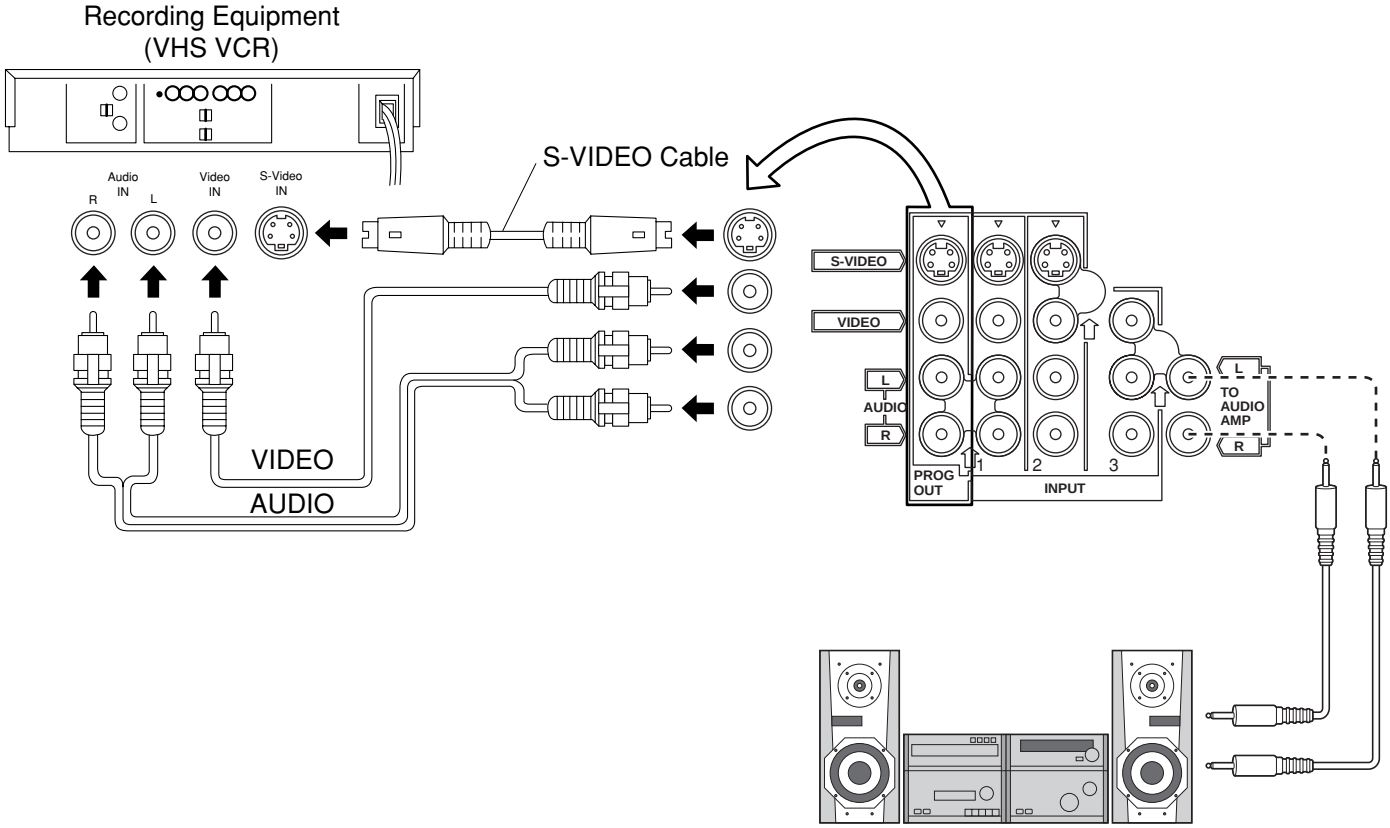
How to connect the COMPONENT VIDEO Input Terminals



Note:
Similar connections are available at the COMPONENT VIDEO Input 1, 2, 3 Terminals.

How to connect the AV Prog. Out Terminals

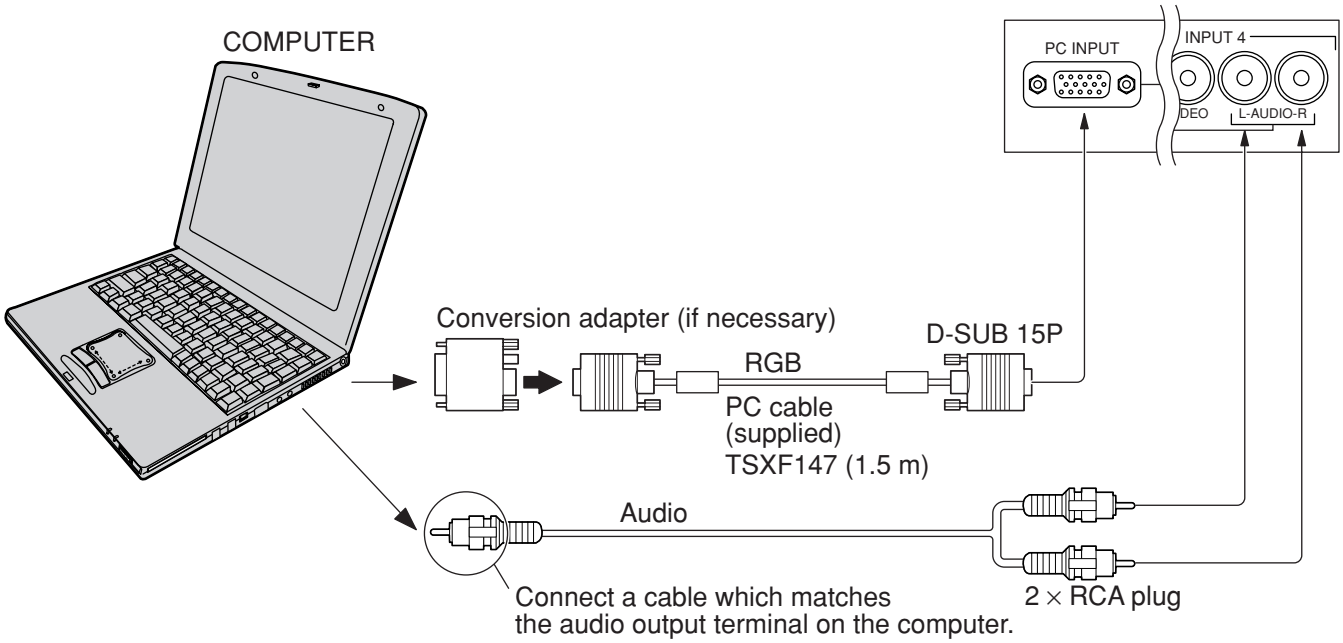
The “Prog. Out” Terminals output the same signals as the main picture on the projection TV screen and sound from the speaker at that time, e.g. TV programs or signals from INPUT 1, 2, 3, 4 terminals.



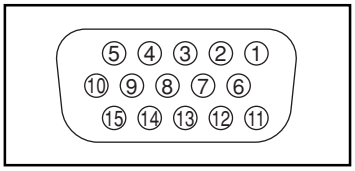
Notes:

- Never connect the VIDEO IN and Prog. OUT terminals to the same video recorder, as this could cause incorrect operation.
- The monitor output emits the main picture’s normal video and audio signals.
- Even if the television is in picture-out-picture condition, Prog. OUT terminals output the same signals as main picture on the screen and sound from speaker. Sub picture including, still, channel search, etc. will not be output at the PROG. OUT terminals.
- Signal (Y, P_B, P_R) is not output at the Prog. OUT terminals.
- To AUDIO AMP terminals cannot be used directly with external speakers.

How to connect the PC Input Terminals



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	SDA
③	B	⑧	GND (Ground)	⑬	HD / SYNC
④	GND (Ground)	⑨	NC (not connected)	⑭	VD
⑤	GND (Ground)	⑩	GND (Ground)	⑮	SCL

Notes:

(1) The PC input terminals are DDC1/2B-compatible. If the computer being connected is not DDC1/2B-compatible, you will need to make setting changes at the computer at the time of connection.
(2) Some PC models cannot be connected to the set.
(3) An adapter is required to use the PC cable (D-SUB 15P) to connect a Macintosh computer to the set.
(4) There is no need to use an adapter for computers with PC / AT compatible D-SUB 15P terminal.
(5) The computer shown in the illustration is for example purposes only.
(6) Additional equipment and cables shown are not supplied with this set.
(7) The picture will become dark if a PC signal with a vertical scanning frequency of 62 Hz is input. To obtain the optimum picture quality with the projection TV, a vertical scanning frequency of 60 Hz is recommended.
(8) Do not set the horizontal and vertical scanning frequencies for PC signals which are above or below the specified frequency range.

Analog RGB signals that can be input

The table below lists the different types of analog RGB signals that can be input.
If a signal which differs greatly from any of the types listed below is input, the picture image may not be displayed correctly, or black background may displayed.

Display mode name	No. of dots (H × V)	Horizontal scanning frequency (kHz)	Vertical scanning frequency (Hz)
VGA400	640 × 400	24.8	56.4
	640 × 400	31.5	70.1
VGA480	640 × 480	31.5	59.9
	640 × 480	35.0	66.7
	640 × 480	37.9	72.8
	640 × 480	37.5	75.0
	640 × 480	43.3	85.0
SVGA	800 × 600	32.1	51.0
	800 × 600	35.2	56.3
	800 × 600	37.9	60.3
	800 × 600	48.1	72.1
	800 × 600	46.9	75.0
	800 × 600	53.7	85.1
XGA	1024 × 768	48.4	60.0
	1024 × 768	56.5	70.1
	1024 × 768	60.0	75.0
MAC16	832 × 624	49.7	74.6

Note:
The number of dots for this set is 800 × 600 for NORMAL display. Number of dots other than 800 × 600 in the above data, will be converted to 800 × 600 (with the exception of MAC 16, which will be displayed in 832 × 624 dots).

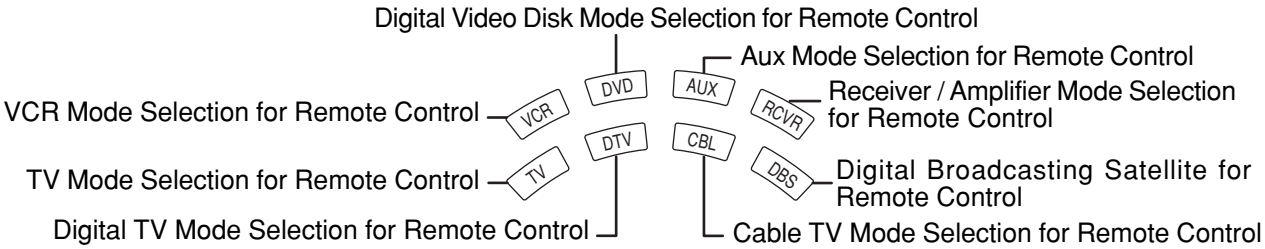
Location of Controls

Illuminated Remote Control

Power button
Press to turn the projection TV ON or OFF. (See page 21)
Note:
The TV's power cord must first be plugged into the wall outlet and then turned on at the POWER switch (standby mode).

MUTE button
Push this button to mute the sound. (See page 35)

Mode Selection buttons
Selects the operation mode for the remote control. (See page 63)



Operating of other Device

Buttons	◁◁	□	▷	▷▷
TV	—	Split Search	—	Split ON / OFF
VCR	REW	STOP	PLAY	FF
CABLE / DBS	—	—	—	—
DVD / LD / CD	Skip Search REW	STOP	PLAY	Skip Search FF
RCVR	Surround –	—	—	Surround +

Buttons	≜	▽	△	▷◁
TV	Split Freeze	—	—	Split Swap
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

R-TUNE button
Switches to previously view to channel or video mode.

ASPECT button
Change of screen size. (See page 28)

NORMAL → JUST → ZOOM → FULL → NORMAL

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

Turning ON and OFF the remote control illumination

R-TUNE + INFO/RECALL

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

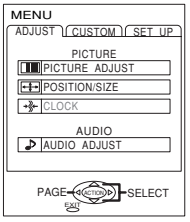
TV/VIDEO buttons
This input mode changes each time this button is pressed. (See page 33)

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

Reduces volume
Moves cursor to the left during menu mode.

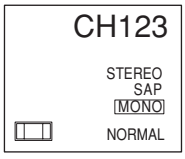
Increase volume
Moves cursor to the right during menu mode.

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



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 / CLOCK)

GAME button
(See page 34)

AV ADJUSTMENT button
AV-adjustments are displayed.
(See page 43, 44)

RH-SPLIT button
Operates the right screen. (See page 37)

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

GUIDE button
for DBS.

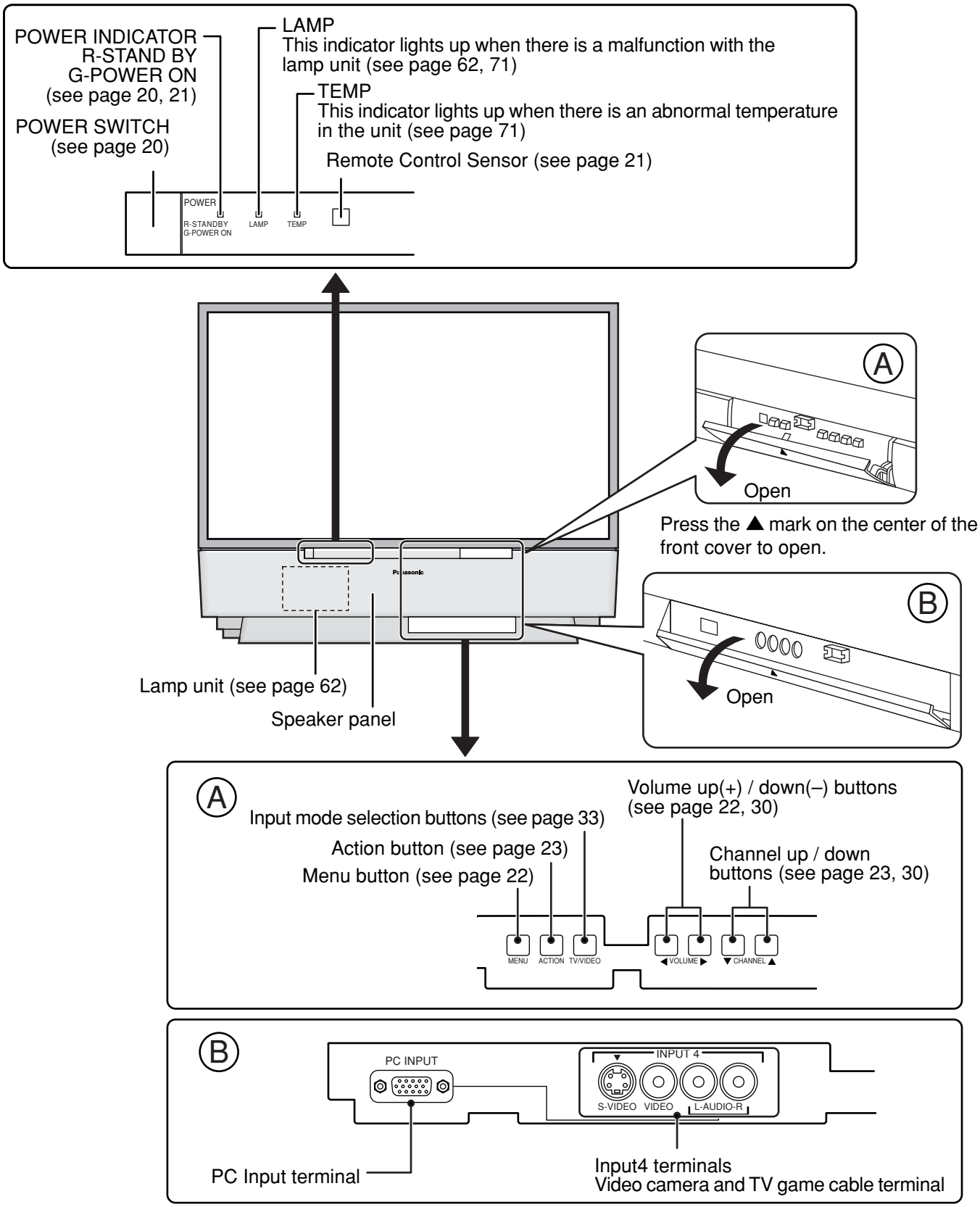
VCR Record button

PROG **PROG button**

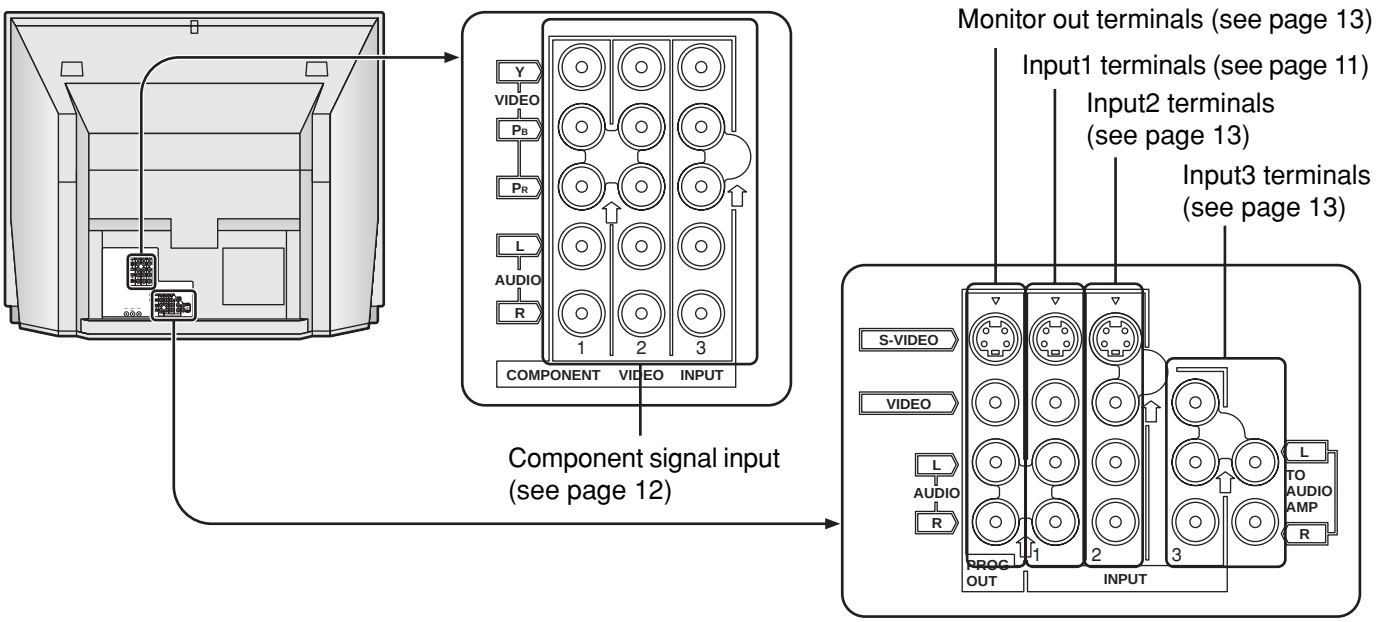
Direct program number selection buttons

Controls and Terminals on the projection TV

< FRONT >

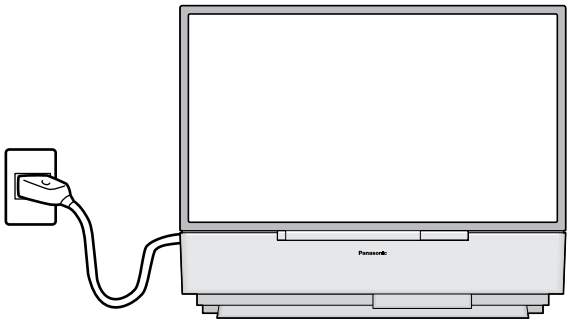


< REAR >


Monitor out terminals (see page 13)
Input1 terminals (see page 11)
Input2 terminals
(see page 13)
Input3 terminals
(see page 13)
Y
VIDEO
PB
PR
L
AUDIO
R
1
2
3
COMPONENT VIDEO INPUT
Component signal input
(see page 12)
S-VIDEO
VIDEO
L
AUDIO
R
PROG
OUT
1
2
3
INPUT
L
TO
AUDIO
AMP
R

Power ON / OFF

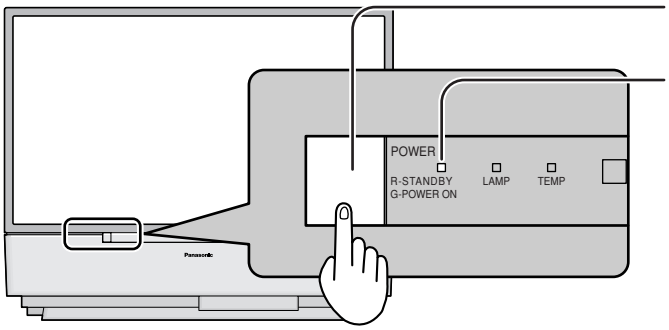
Connecting the Plug to the Wall Outlet



Turning the Power ON and OFF

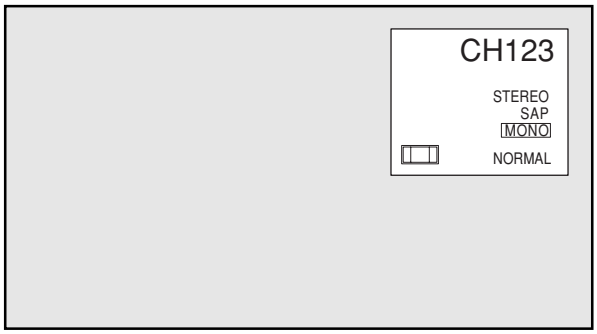
Always be sure to follow the procedure given below to turn the projection TV power ON and OFF.

- The lamp cooling fan will continue to operate for approximately 90 seconds after the power is turned off by the remote control. At the same time, the power indicator will blink Orange.
  Normally, use the remote control to turn the power OFF (turning the picture OFF).
  Do not disconnect the power cord from the power outlet or do not open any circuit breakers while the cooling fan is still operating.
  Do not disconnect the power cord from the power outlet while in Stand-by mode.
- When you want to turn on the power again immediately after turning off the power during the operation of the projection TV, be sure to wait until the cooling fan stops and then turn on the power.
  Setting the projection TV to Stand-by, the power indicator will light up red.

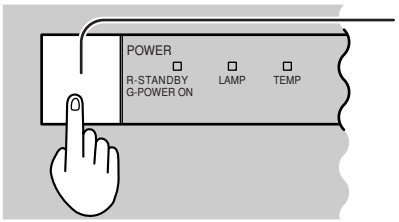


Push the Power switch on the projection TV to turn the power on.

The Power Indicator will become Green and blink (approximately 10 seconds).



Example: The screen above is display for a while after the projection TV is turned on. (Setting condition is an example.)



Push the Power switch on the projection TV to turn the set off. The Power Indicator will no-illumination.

The Power Indicator will light

- Power-OFF ..... Not illuminate
- Stand-by ..... Red
- Power-ON ..... Green

Note:
When the power is switched off using the POWER switch on the set, the internal cooling fan also stops operating. Therefore, the lamp is not sufficiently cooled and will take a while for it to turn ON again.

Power (ON / OFF) button

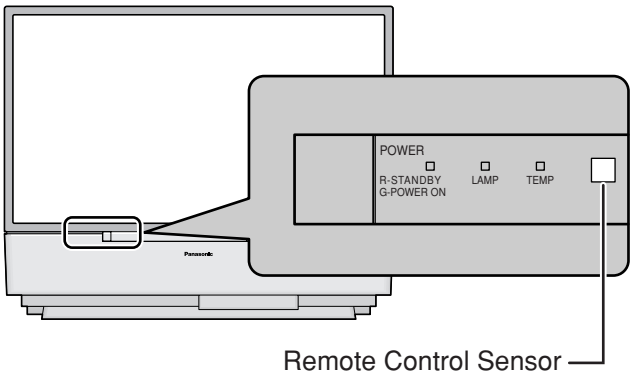
Push the Power button to turn the projection TV ON, from Stand-by mode.

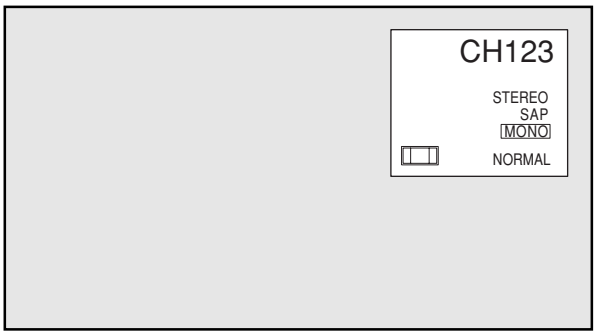
The projection TV must first be switched on at the wall outlet and the Power switch.

The Power Indicator will blink Green.

↓ Approximately 10 seconds

The Power Indicator will become Green.





Example: The screen above is display for a while after the projection TV is turned on. (Setting condition is an example.)

Push the Power button to turn the projection TV to Stand-by mode.

The Power Indicator will become Orange.

↓ Approximately 90 seconds

The Power Indicator will become Red.

The Power Indicator

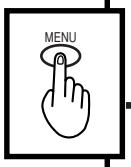
LED	ACTION
No illuminated	Power – OFF
Red	Stand – by
Green	Power – ON
Green blink	Power – ON (approximately 10 seconds after)
Orange blink	Power – OFF (by the remote control) (approximately 90 seconds after)

Note:
Even when the main power switch (FUNCTION SWITCH) is turned off, and the POWER indicator is not lit, the projection TV is not completely cut off from the power if the power cable is still plugged in.

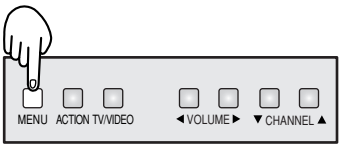
Flow Chart of Main menu

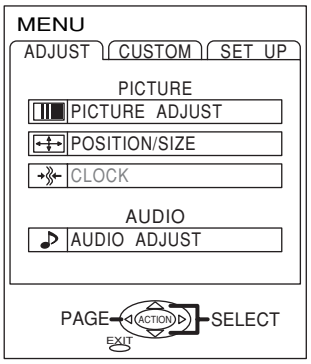
1

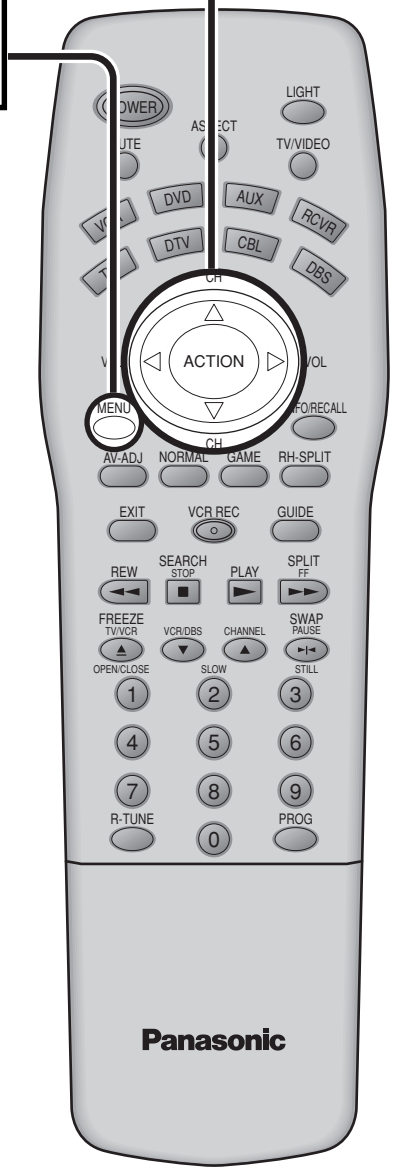
If the MENU button is pressed, the MENU screen will be displayed. If the MENU button is pressed once more while the menu screen is displayed, the MENU screen will be cleared.



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

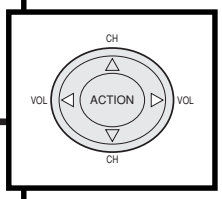




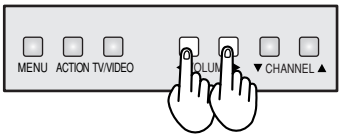


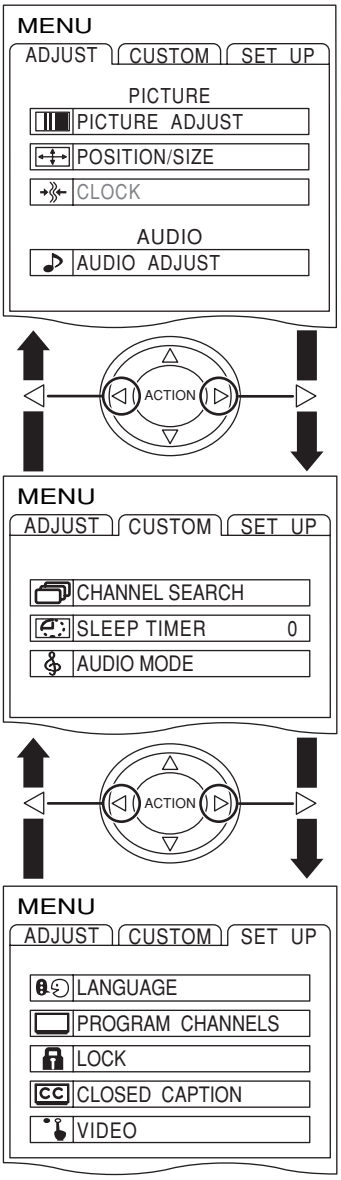
2

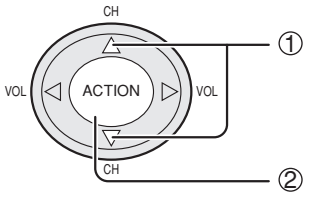
Select MENU desired by pushing Right " ▷ " button or Left " ◁ " button.

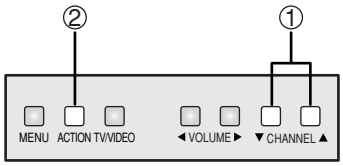


The Right " ▷ " button and Left " ◁ " button on the main body can also be used to select items on the MENU screen.



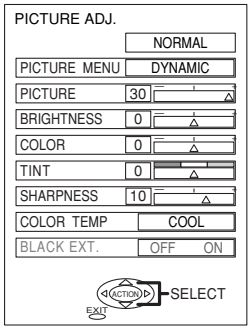






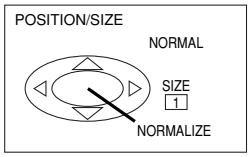
The CHANNEL button on the main body can also be pressed to select items in the MENU screen.

TO PICTURE ADJUST menu



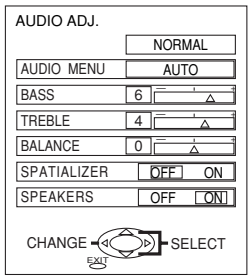
See page 42

TO POSITION/ SIZE



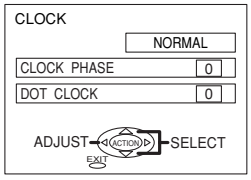
See page 38

TO AUDIO ADJUST menu



See page 40

TO CLOCK



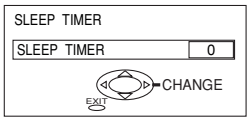
See page 60

- When the set is connected to the PC, CLOCK can be adjusted.

TO CHANNEL SEARCH screen

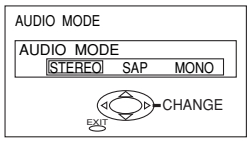
See page 32

TO SLEEP TIMER adjust screen



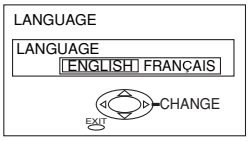
See page 54

TO AUDIO MODE adjust screen



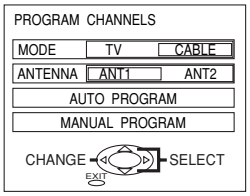
See page 53

TO LANGUAGE selection screen



See page 61

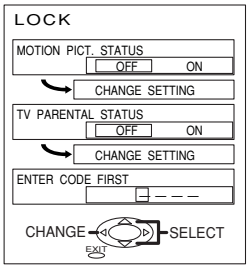
TO PROGRAM CHANNELS adjust screen



See page 24

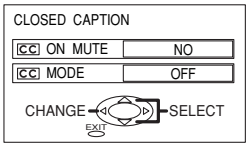
- ANTENNA switching for PROGRAM CHANNEL is possible only during TV mode.

TO LOCK selection screen



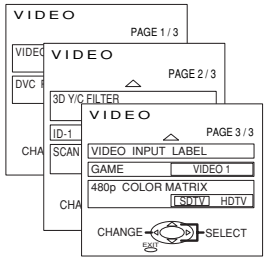
See page 48

TO CLOSED CAPTION selection screen



See page 46

TO VIDEO adjust screen



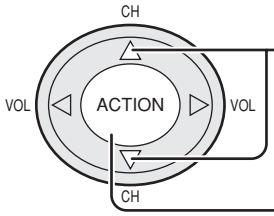
See page 45, 51, 55 - 59

Tuning channels (Automatic channel programming)

Automatically searches and adds receivable channels to memory.

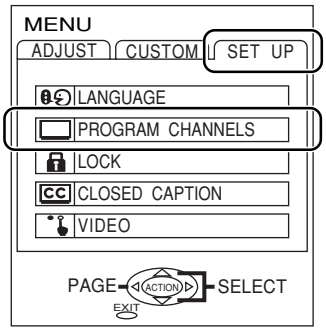
Channel tuning cannot be performed when the MAIN picture is not receiving a TV broadcast (tuning is not possible).

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

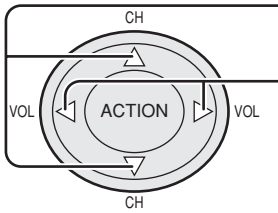


Press to select PROGRAM CHANNELS.

Press to display the PROGRAM CHANNELS.

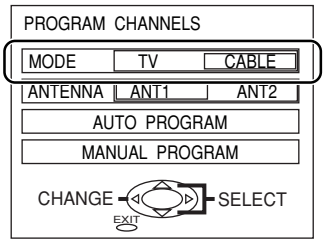


2

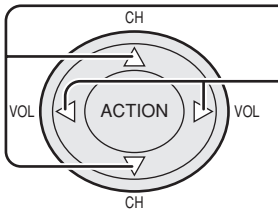


Press to select MODE.

Press to select TV or CABLE.

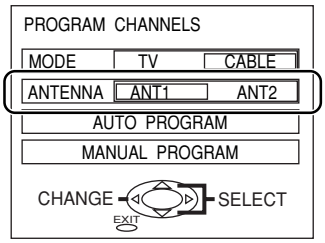


3

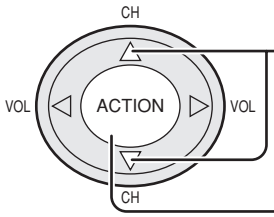


Press to select ANTENNA.

Press to select ANT1 or ANT2.

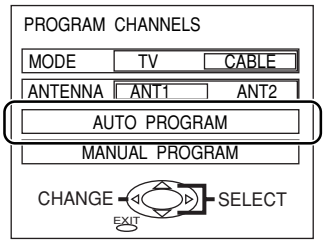


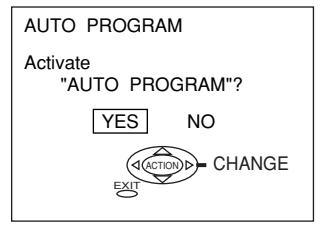
4



Press to select AUTO PROGRAM.

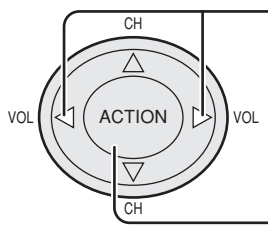
Press to display the confirmation screen.



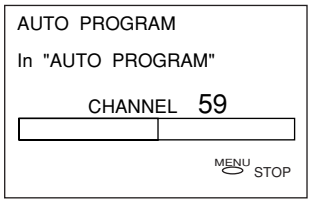


Note:
TV or Cable Tuning mode must be set according to your connections.

5



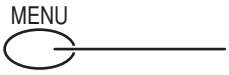
Press to select YES.



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.

▼



Press to exit menu.

Notes:

- When buttons are pressed with AUTO PROGRAM running, the projection TV set will return to normal viewing.
- 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).
- PROGRAM CHANNELS are valid only during TV mode.
- Some channels with very weak signals may be locked into memory. It desired, these channels can be deleted manually using the Manual Program feature.

Tuning channels (Manual channel programming)

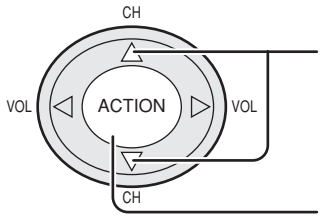
Use this setting when changing setting of receiving channels or changing the channel display.

Turn the projection TV 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.

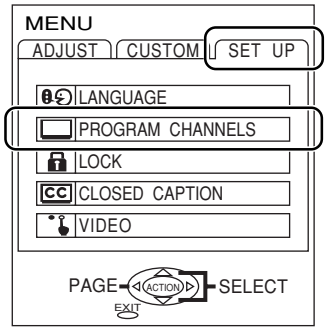
Selecting the PROGRAM CHANNELS menu.

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

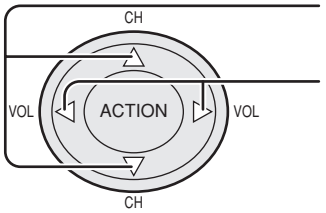


Press to select PROGRAM CHANNELS.

Press to display the PROGRAM CHANNELS.

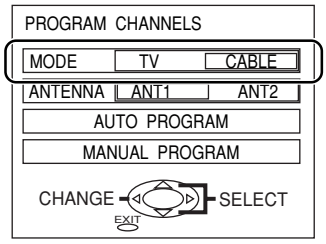


2

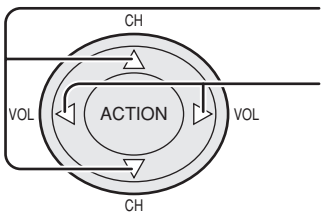


Press to select MODE.

Press to select TV or CABLE.

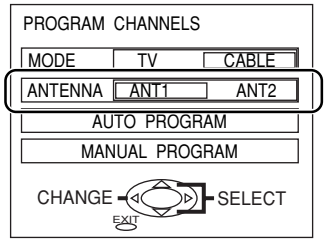


3

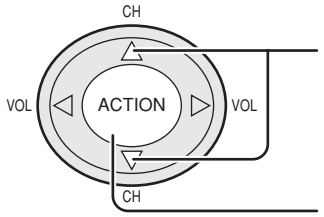


Press to select ANTENNA.

Press to select ANT1 or ANT2.

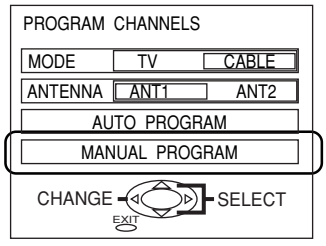


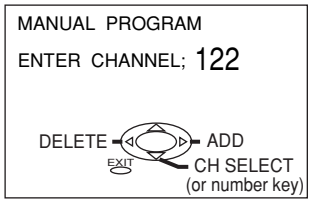
4



Press to select MANUAL PROGRAM.

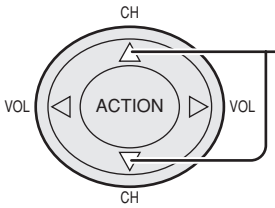
Press to display the MANUAL PROGRAM screen.



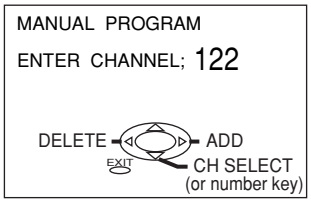


Adding or deleting channels

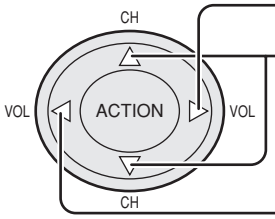
4



Press to select channel (or number keys).



5



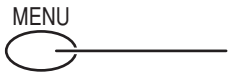
Press to add channels to memory (blue).

Press to select channel.

Press to delete channels from memory (yellow).

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

▼



Press to exit menu.

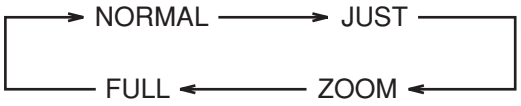
Notes:

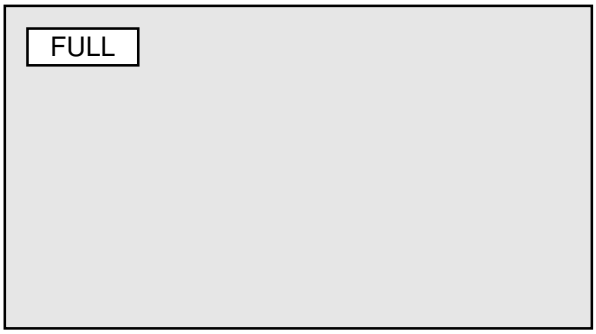
- PROGRAM CHANNELS are valid only during TV mode.
- Some channels with very weak signals may be locked into memory. It desired, these channels can be deleted manually using the Manual Program feature.

ASPECT Controls

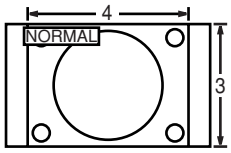
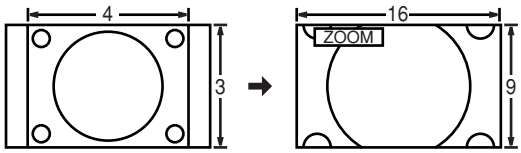
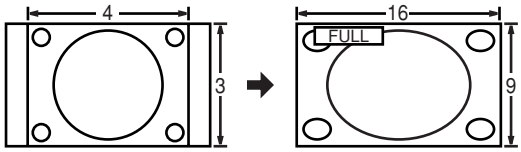
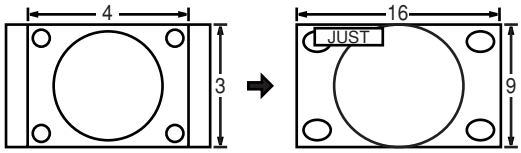
The color monitor will allow you to enjoy viewing the picture at its maximum size, including wide screen cinema format picture.

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





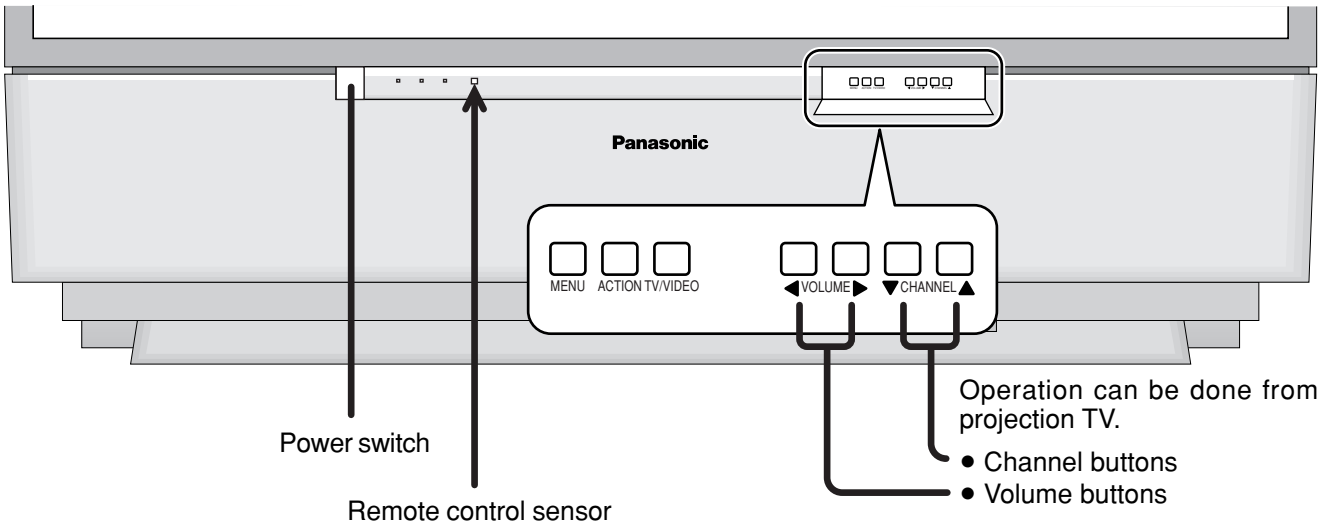
Notes:
- For a 480p signal input during component input signal mode, the mode switches ZOOM and FULL only.
- When a 1080i and 720p signal is being received, the mode is set to FULL, and aspect switching is not possible.
- During PC mode, the mode switches between NORMAL and FULL only.
- During split screen, the modes will change as follows:

Mode	Picture	Explanation
NORMAL		NORMAL will display a 4:3 picture at its standard 4:3 size.
ZOOM		ZOOM mode magnifies the central section of the picture.
FULL		FULL will display the picture at its maximum size but with sight elongation.
JUST		JUST mode will display a 4:3 picture at 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.

Notes:

- The S-VIDEO terminal on this set can detect specially encoded signals that are compatible with a wide screen monitor. When a full image from the S-VIDEO terminal of specially encoded video is detected by the set, the screen size is automatically set to FULL mode.
- The screen size also changes if ID-1 is detected.
- The screen size will also change if S1 detection has been set.

VHF, UHF and CATV



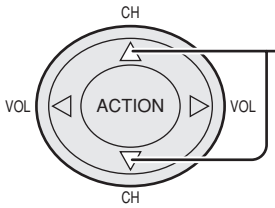
1

Press to turn the projection TV on (see page 21).

2

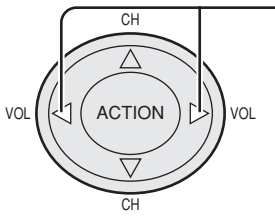
Press to operate the projection TV with the remote control.

3



Press to select the desired channel.

4

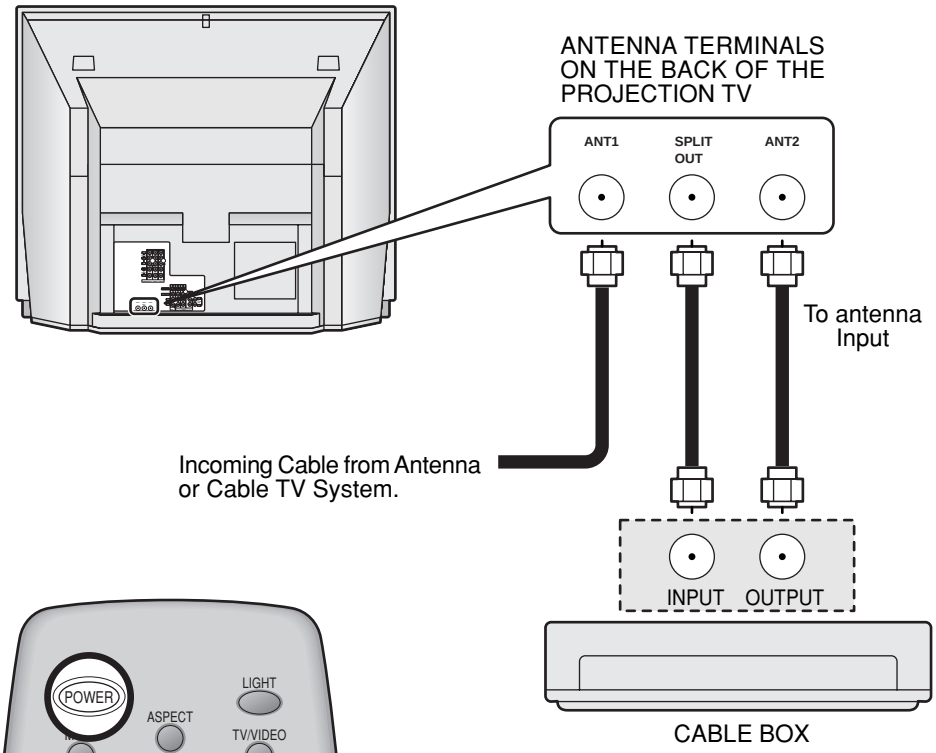


Press to select the desired volume level.

Notes:

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

Cable TV



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. After select ANT2 in the PROGRAM CHANNELS (see page 24).
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

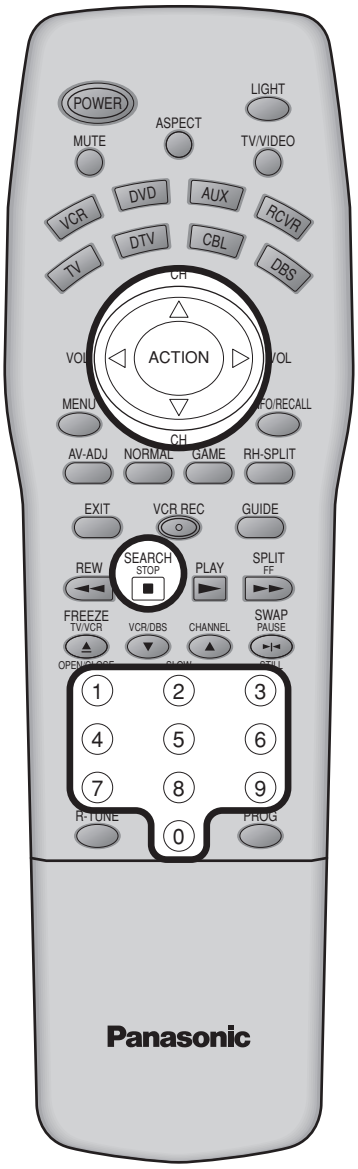
2

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 63, 64).

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

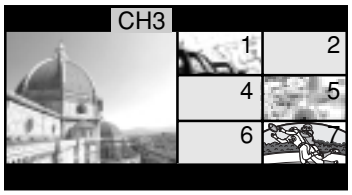
Searching for the desired channel (Channel search)



When the SEARCH button is pressed during single screen.

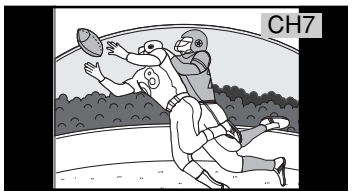
When a channel button is pressed during channel search.

- Number keys:
  Example: When 7 is pressed, channel 7 is displayed in single screen.
- Channel up and down keys:
  When △ or ▽ button is pressed, the next channel up or down is displayed in single screen.

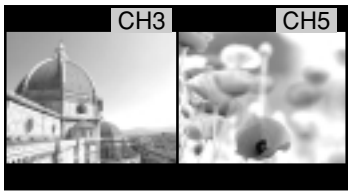


Sound from the left screen is output from the speakers on the projection TV set.

Ex. Select channel 7

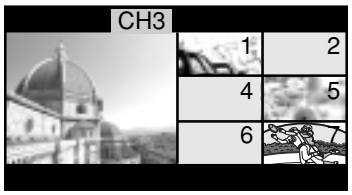


When the SEARCH button is pressed during screen, PoutP or pause.



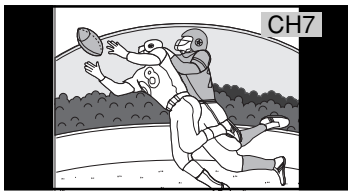
When a channel button is pressed during channel search.

→ The selected channel will be displayed on the right screen. (Freeze is deactivated)



Sound from the left screen is output from the speakers on the projection TV set.

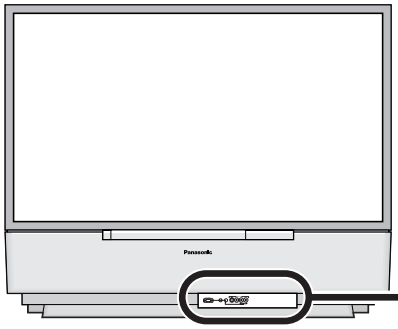
Ex. Select channel 7



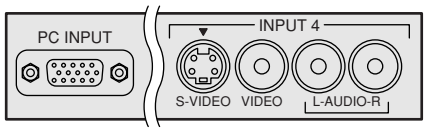
Channel search:
Channel search displays each channel, in order, as a paused image. Channels are displayed from the left top to the right bottom in order. When it reaches the right bottom, the next channel is displayed at the left, overwriting the previously displayed channel.

Notes:
- To end channel search, press → SEARCH STOP.
- Channel search can be activated from the MENU screen.
- Channel search is valid only during TV mode.

Playing a VCR or other peripheral equipment

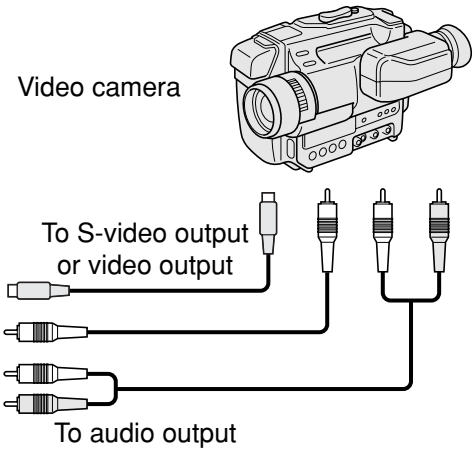


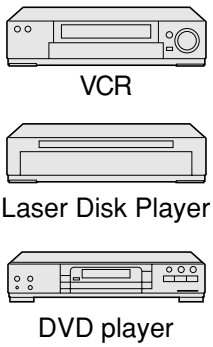
Confirm that the projection TV is in standby mode.



Confirming connections

A video camera uses the Video Input 4 terminal on the front of the projection TV.





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

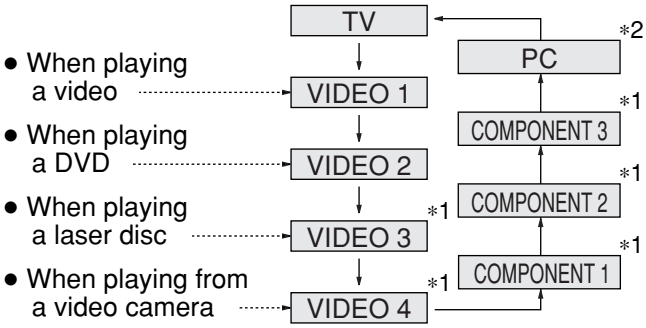
Turning the power on and switching input modes

1

Turn the projection TV on.

2

The input mode changes each time this button is pressed. (See page 51 and 52)

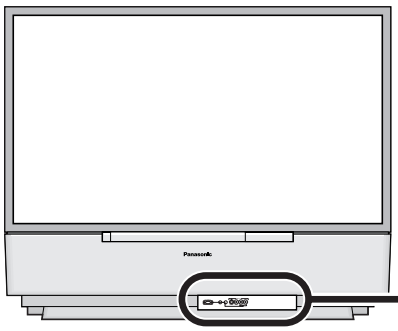


∗1 No input mode is displayed for terminals with no equipment connected.
∗2 No input mode is displayed for terminals with no signal.

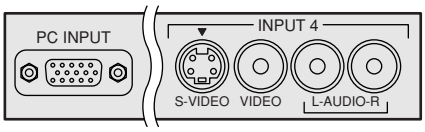
Notes:
- When the remote control is unavailable, input modes can also be switched on the projection TV set using the TV/VIDEO button.
- Component 1 - 3 and PC is displayed during single screen, but is not displayed during split screen.

3 Operate the connected equipment.

Playing games in game mode

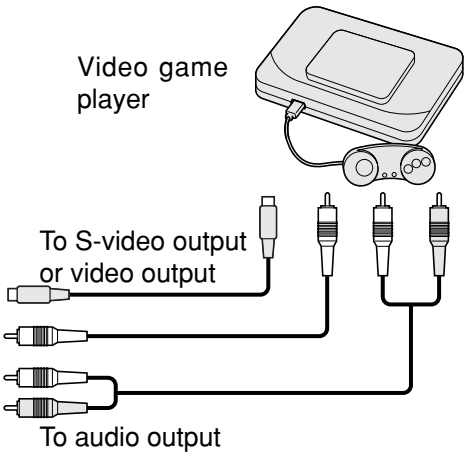


Confirm that the projection TV is in standby mode.



Confirming connections

Example: When using the Video Input 4 terminal on the front of the projection TV.



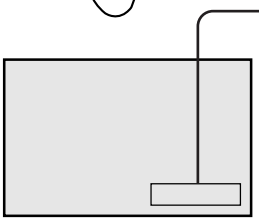
Turning on the projection TV and switching to game modes

1

Turn on the TV.

2

Press the GAME button to switch to game mode.



TV screen

- Displays the lapsed time.
  Lapsed time is displayed for 5 seconds every 30 minutes.
  Be sure to rest your eyes every 30 minutes.

  GAME 30 → GAME 60 → GAME 90

  The lapsed time display stops after 90 minutes.

3 When finished, press the GAME button again. (Turn off the game mode by switching input modes or changing the channel.)

Notes:

- Video input mode can be changed when the GAME button is pressed.
- Game mode is maintained when power to the projection TV is turned off.
- When game mode is selected: Picture will be set to PICTURE MENU, and sound will be set to SOUND MENU.

factory default setting

Item	Setting
Picture menu	GAME
Audio menu	GAME
SPATIALIZER	ON
Aspect	FULL

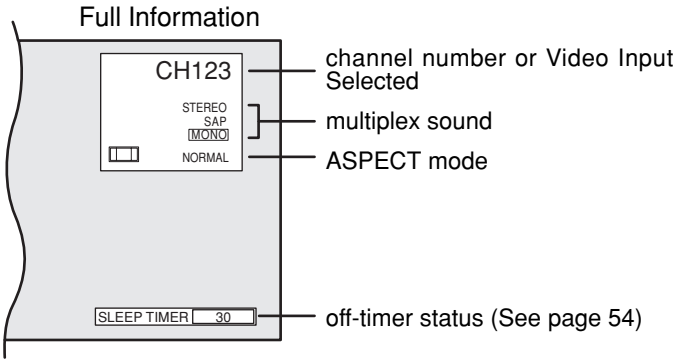
- Picture and sound can be set as desired. (See page 40, 42.)

Recall / Mute

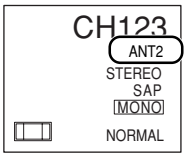
Recall (On-screen display)

Press this button to display channel number, off-timer remaining time, screen modes, and other settings. For approximately 10 seconds, only the channel number remains,.....
The channel number remains, but other information disappears after a specified period. Press this button again to delete channel number display.

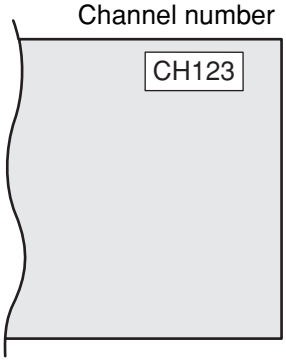
Full Information



ANT2 is displayed under the channel number when antenna2 is connected.



Channel number



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

→ Full Information → Channel → No display

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.

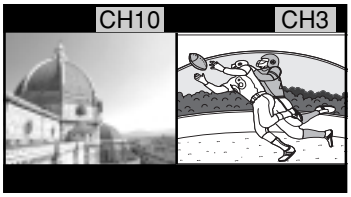
Split screen

Split screen enables you to search other channels on the right screen or check video recording status.

Splitting the screen

Press to split

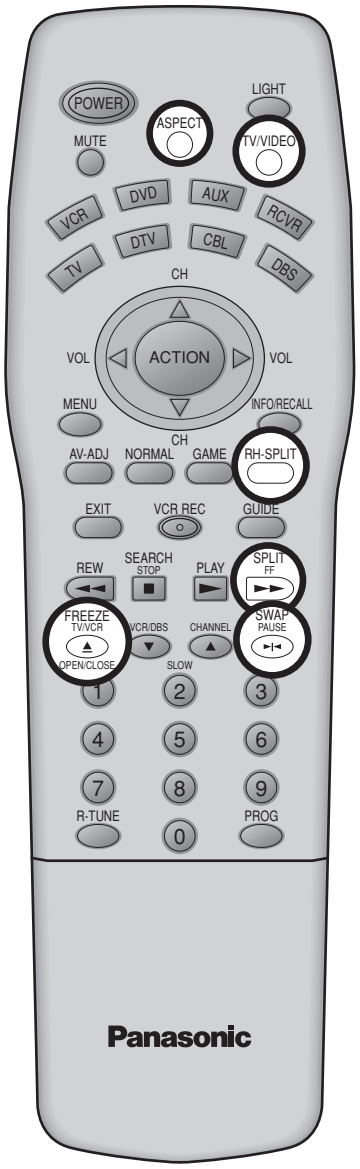
(The previously selected screen appears on the left.)



Example: Two screen mode set to NORMAL aspect.

- Returning to one screen.

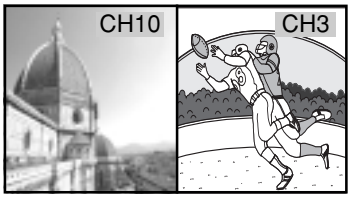
Press to return.



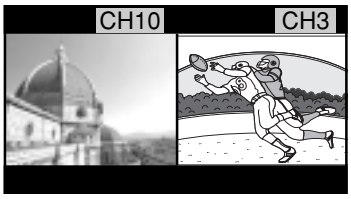
Selecting the screen mode for split screen.

Press to select modes.

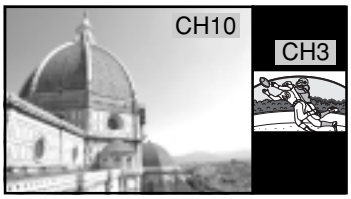
(FULL)



(NORMAL)

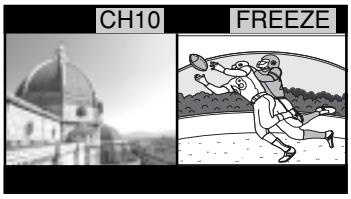


(PoutP)



Freezing pictures

Press during single screen to freeze.
The screen is split and the freeze image is displayed on the right and the broadcast channel continues on the left.



Press to recover.

Notes:

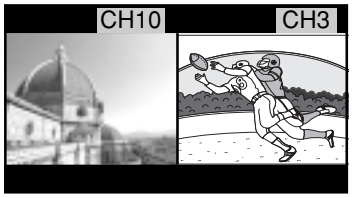
- Split screen can be accessed during TV signal and Video1-4 input modes, however, this does not apply when signal is input from Component 1-3 and PC.
- Sound from the left screen is output from the speakers on the projection TV set.
- When the screen is split, signals of the left screen are output from the rear monitor output terminal.
- The left and right screen are processed by individual circuits and, therefore, may have slight variation in sound and image quality.
- Split screen returns to single screen when the projection TV is turned off.

Changing the channel of the right screen

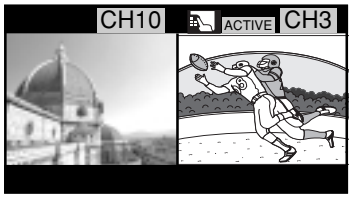
during SPLIT SCREEN FULL, SPLIT SCREEN NORMAL, and PoutP.

1

Press to operate right screen.



▼



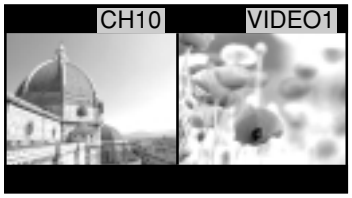
2

While is displayed on the screen, press to switch modes.

Example: Change to channel 5.

Viewing videos

While is displayed on the screen, press to switch modes.



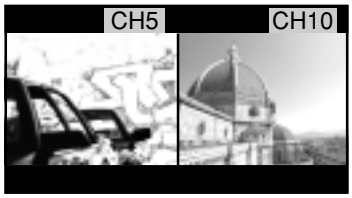
- The channels for the left screen can be changed in the same way as when the screen is single.
- When ACTIVE is displayed, the left screen will not operate.

Swapping left and right screens

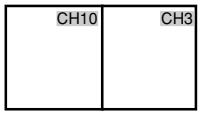
During SPLIT SCREEN FULL, SPLIT SCREEN NORMAL, PoutP: Press to swap.

Example:
During SPLIT SCREEN NORMAL.

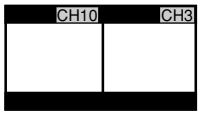
▼



Screen mode names:



SPLIT SCREEN FULL



SPLIT SCREEN NORMAL

PoutP

Notes:
- The right and left screens cannot display the same picture at the same time.
- Use the right screen when playing video games on a split screen (to avoid distortion of images).
- When the ANTENNA setting is set to ANT2, input for the left screen cannot be switched (see page 24).

Adjusting screen position and size

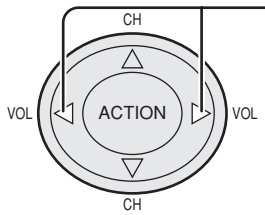
Adjusting screen

1

Press to select the screen mode to adjust.

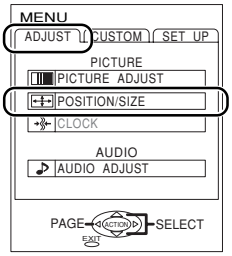
2

Press to display the menu screen.

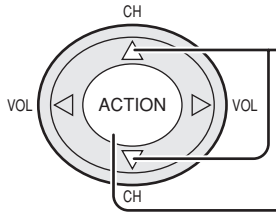


Press to select ADJUST menu.

TV / VIDEO / COMPONENT mode



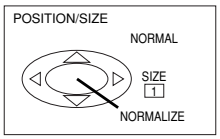
3



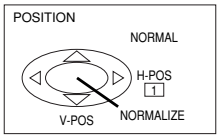
Press to select POSITION/SIZE.

Press to display POSITION/SIZE.

TV / VIDEO / COMPONENT mode



PC mode

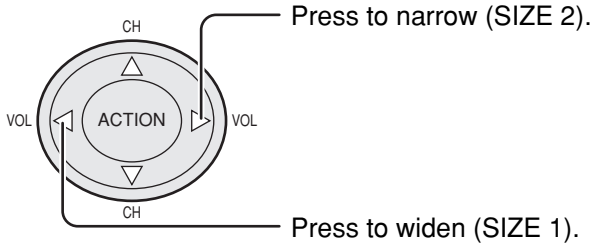


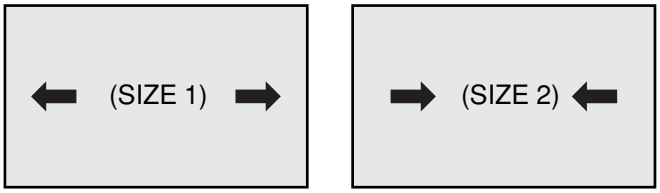
Notes:

- This projection TV 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 projection TV for commercial purposes or for public use, such as in cafes and hotels. Shrinking and enlarging images by using screen mode switching function (zoom, etc.) may violate copyright laws.
- Images displayed on a wide screen TV 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 the projection TV is turned off.
- The signals output from the monitor output terminal on the back of the projection TV is not affected when the screen size and position is adjusted.
- C/V-POSITION and H-POSITION can be adjusted during PC mode.

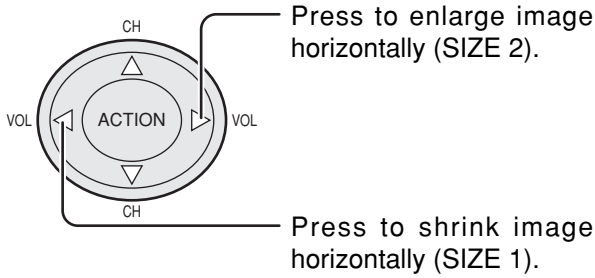
Switching screen width

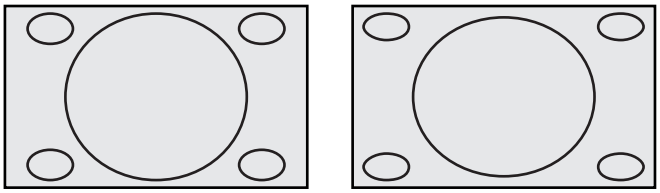
During NORMAL mode, if noise appears on the ends of the image in SIZE 1, switch to SIZE 2.





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



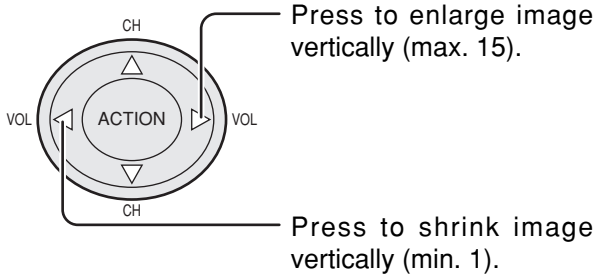


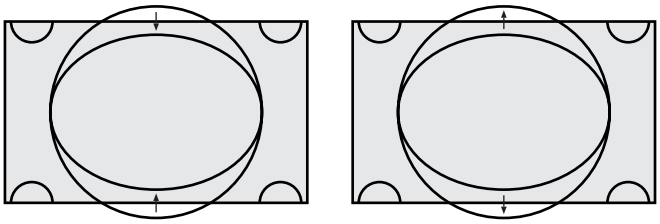
(SIZE 1) (SIZE 2)

- To return to NORMAL → ACTION
- To end ADJUSTMENTS → MENU (EXIT)

Changing vertical size

During ZOOM mode.

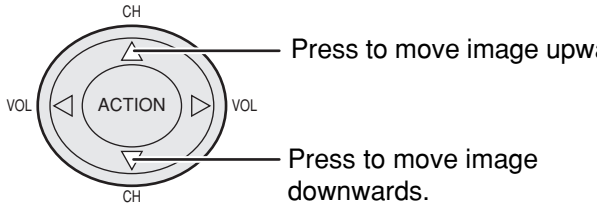


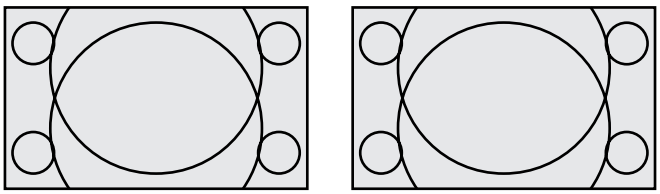


- To return to NORMAL → ACTION
- To end ADJUSTMENTS → MENU (EXIT)

Displaying images cut off from the screen

For ZOOM mode.



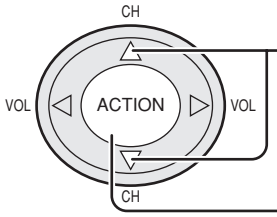


- To return to NORMAL → ACTION
- To end ADJUSTMENTS → MENU (EXIT)

Audio Adjustments

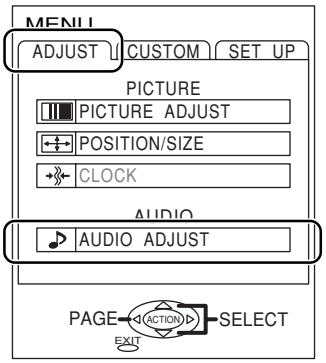
1 Press the MENU button to display the MENU screen and select ADJUST.

2 Select AUDIO ADJUST of ADJUST from the MENU screen.

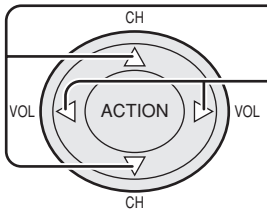


Press to select AUDIO ADJUST

Press when AUDIO ADJUST screen is displayed.



3



Press to select the menu to adjust each item.

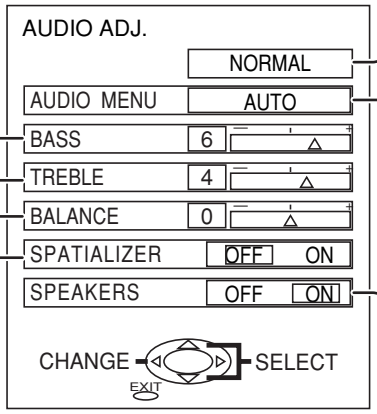
Select the desired level by listening at the sound.

NORMAL is displayed at default.
When setting are altered, change to NORMALIZE.

BASS
Adjusts low sounds

TREBLE
Adjusts high sounds

BALANCE
Adjust left and right volumes



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

SPATIALIZER OFF [ON]

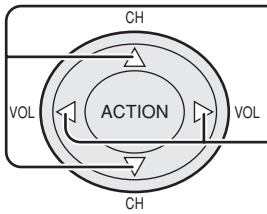
During monaural sound:

SPATIALIZER [OFF] ON

See next page

AUTO	Automatically adjusts quite sound and loud sound for case of listening.
STANDARD	Emits the original sound.
DYNAMIC	Amplifies the Low and High frequencies and outputs optimum sound.
MUSIC 1	For programs consisting mainly of music. Enhances high sounds.
MUSIC 2	Enhances high sounds even more. (Recommended for those who have a slight hearing deficiencies.)

When GAME is selected for the picture, SOUND setting also changes to GAME.
During GAME mode, sound mode cannot be change in this menu.
When connected a PC, the audio input to VIDEO 4 is used as the audio output.



To reset to NORMAL setting,
select NORMALIZE with the up △ and down ▽ buttons and press ACTION.
NORMALIZE → NORMAL

To adjust settings individually , press the AV ADJUST button to select the desired menu and adjust using the left ◁ and ▷ right buttons.

▼

Press MENU button.

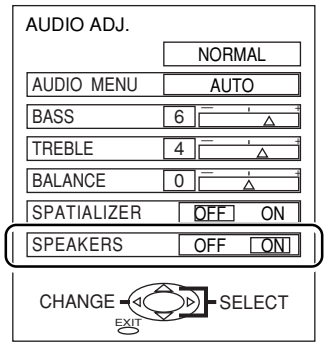
Turning the speaker sound ON and OFF

SPEAKERS OFF
Turns off the speaker sound.

SPEAKERS | OFF | ON

SPEAKERS ON
Speaker sound is normal.

SPEAKERS | OFF | ON

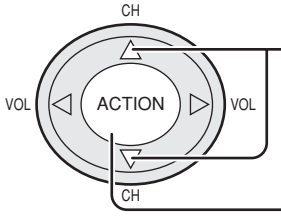


● To end adjustments → MENU → Press MENU button.

Notes:
● Sound signals are output from the rear AUDIO OUT terminal.
● When volume is adjusted or the mute button is pressed from the remote control, a message will displayed.

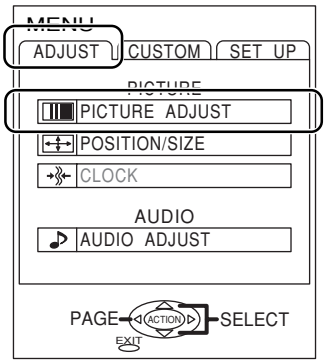
Picture Adjustments

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



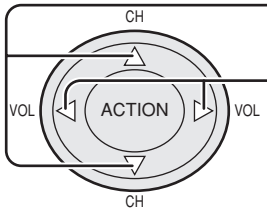
Press to select to PICTURE ADJUST.

Press when PICTURE ADJUST screen is displayed.



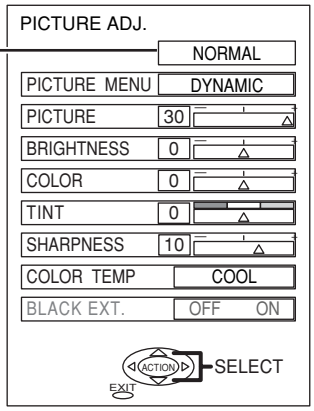
NORMAL is displayed at default.
When setting are altered, changes to NORMALIZE.

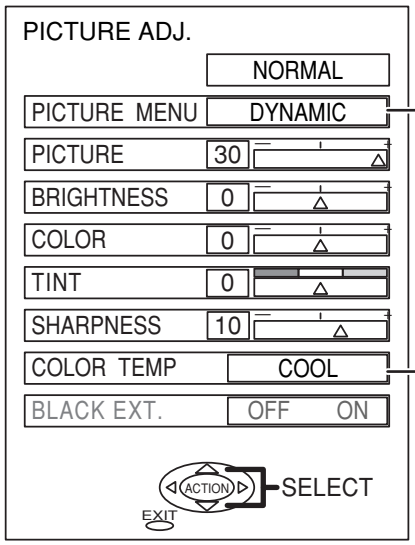
2



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 — CINEMA — DYNAMIC

STANDARD

STANDARD
Displays unaltered image.

↓

CINEMA

CINEMA
Ideal for movies.

↓

DYNAMIC

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

During PC mode, picture menu change STANDARD, PHOTO and DYNAMIC.
During GAME mode, picture menu cannot be changed in this menu.

Press the left ◁ or right ▷ button to switch between modes.

NORMAL ⟷ COOL ⟷ WARM

PICTURE
Selects proper brightness and density for the room.

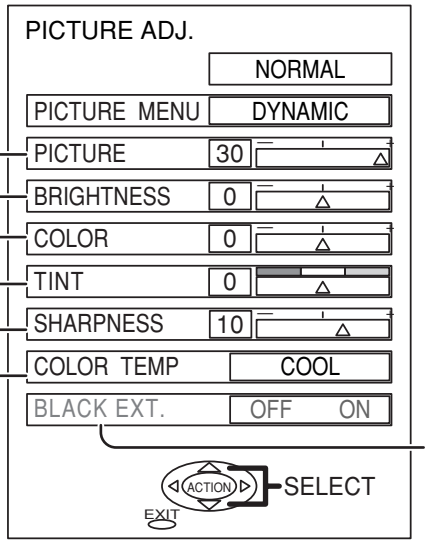
BRIGHTNESS
Adjusts for easier viewing of dark pictures such as night scenes and hair.

COLOR
Adjusts slightly to a lighter color.

TINT
Adjust for proper skin color.

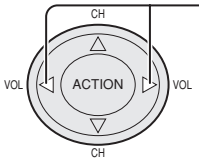
SHARPNESS
Displays a sharp image.

COLOR TEMP
(Color Temperature)
classifying white light.



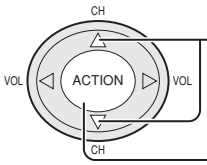
BLACK EXT.
(BLACK EXTENSION)
Adjusts the dark shades of the image in gradation.
This can be turned OFF and ON when STANDARD or CINEMA is selected for the PICTURE MENU.

- 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 and press ACTION.

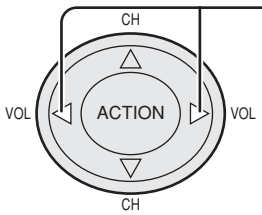
Press ACTION.

- To return to normal viewing, →

Press MENU button.

By pressing the AV-ADJ button on the remote control, PICTURE ADJUST and AUDIO ADJUST can be directly adjusted instead of starting from the MAIN menu (see page 44).

The selected menu will change each time the AV-ADJ button is pressed (press till the desired menu is displayed).

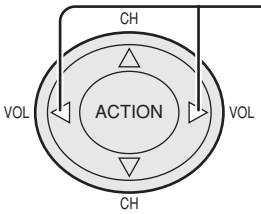


Adjust using the left ◁ or right ▷ button.

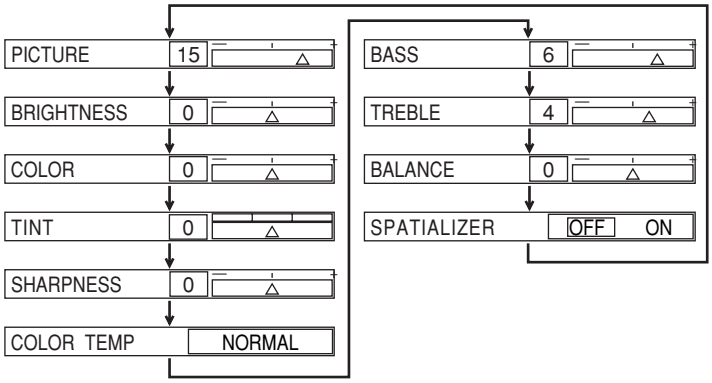
Note:
There is little change when PICTURE is increased with a bright picture or reduced with a dark picture.

By pressing the AV-ADJ button on the remote control, PICTURE ADJUST and AUDIO ADJUST can be directly adjusted instead of starting from the MAIN menu.

The selected menu will change each time the AV-ADJ button is pressed (press till the desired menu is displayed).



Adjust using the left ◁ or right ▷ button.

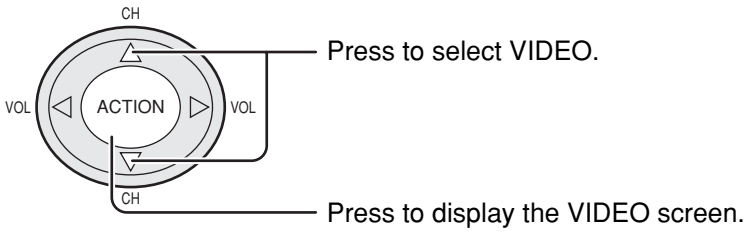


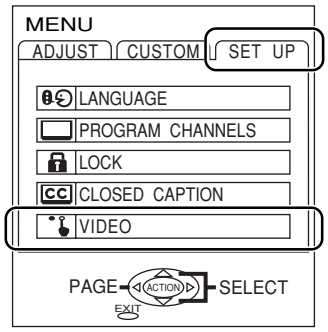
Playing special video software

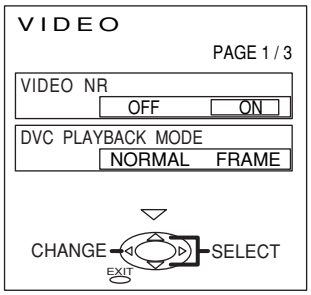
When playing special images such as three dimensional video disks on video disk players or game software on video game players, use GAME mode. Use TV mode for normal viewing.

Selecting VIDEO menu

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

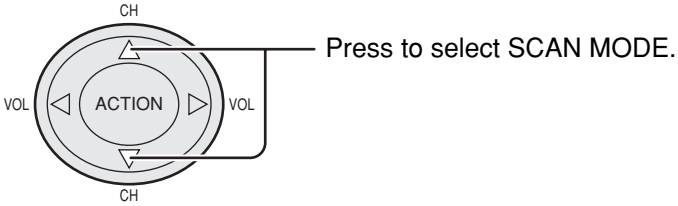




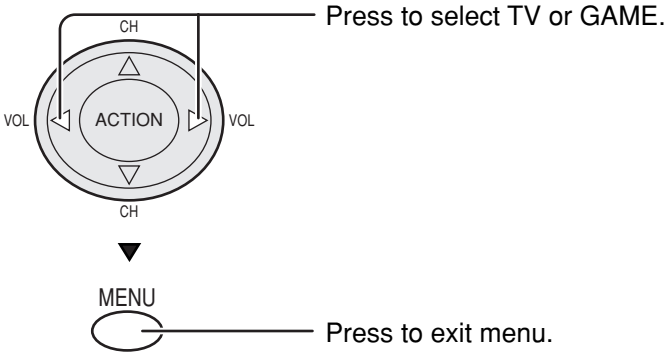


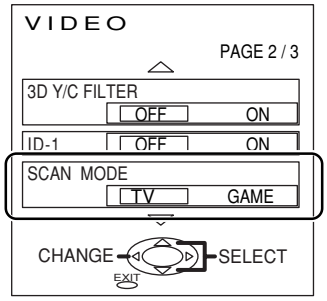
Switching to SCAN MODE.

1



2



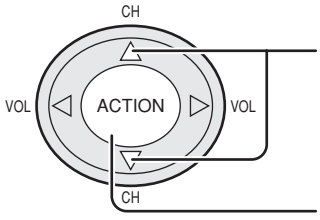


Note:
The VIDEO set up screen is made up of 3 pages.
Use the up △ and down ▽ buttons to change pages.

Closed Captions

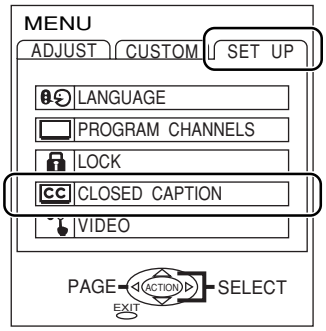
This receiver has a built in decoder that provides a visual depiction of the audio portion of a television program in the form of written words across the screen (white or colored letters on a black background). It allows the viewer to read the dialogue of a television program or other information.

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



Press to select CLOSED CAPTION.

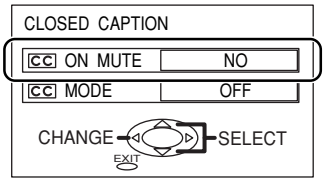
Press to display the CLOSED CAPTION screen.

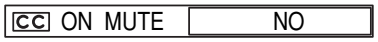


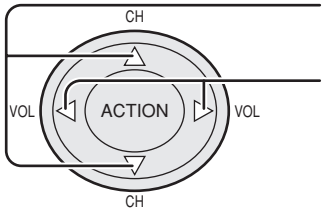
2 **CC ON MUTE**

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.







Press to select ON MUTE.

Press to select from the following:

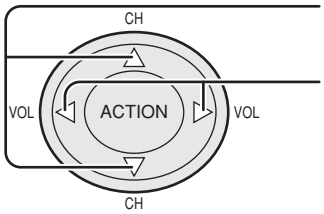
→ NO(OFF) ↔ C1 ↔ C2 ↔ C3 ↔ C4 ←

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 MAIN picture is displaying a COMPONENT VIDEO INPUT of 480i or more.
- When aspect is ZOOM, Closed Caption cannot be used.

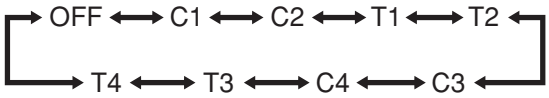
3 CC MODE

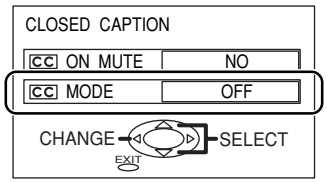
Activates the On-Screen Closed Caption feature. When activated this feature will remain on until OFF is selected in this menu.



Press to select CC MODE.

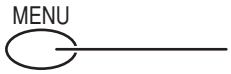
Press to select from the following:





- **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 →



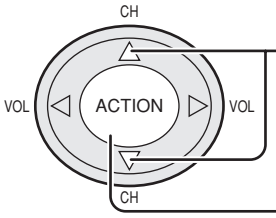
Press MENU button.

Lock Feature

In the United States, the V-CHIP consists of two rating systems, one for motion pictures and one for TV programs. Their 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.

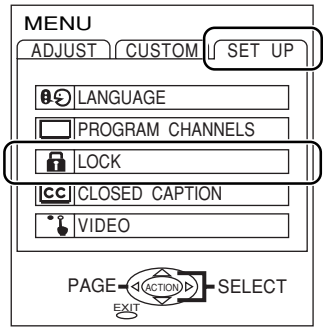
Press the MENU button to display the MENU screen and select SETUP.

1

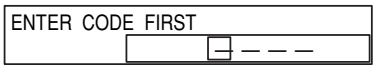


Press to select LOCK.

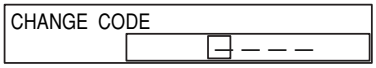
Press to display the LOCK screen.

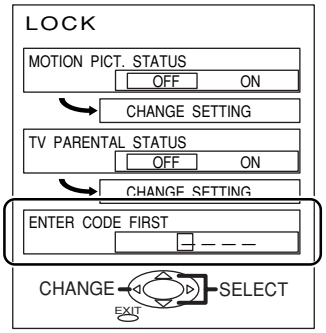


Input code
Enter any 4-digit number as a password.
These numbers will be needed when deactivating the LOCK function.



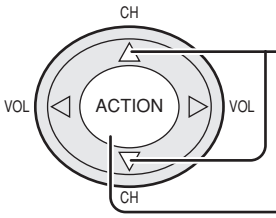
▼ Access granted





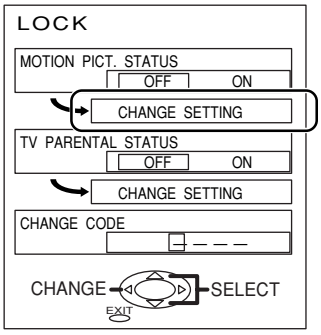
Note:
Use a code that is easy to remember and record it in a safe place.

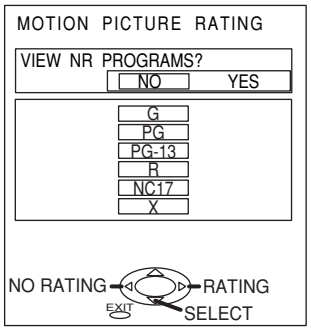
2 Selecting broadcasts to lock



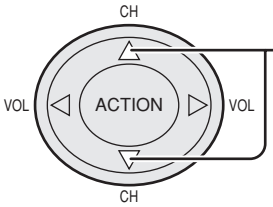
Press to select CHANGE SETTING (the menu following MOTION PICT. STATUS).

Press to display the MOTION PICTURE RATING screen.

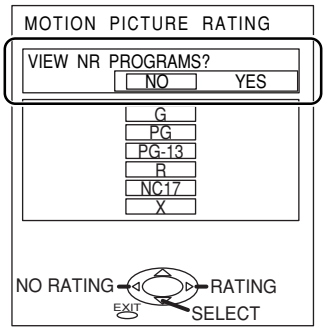


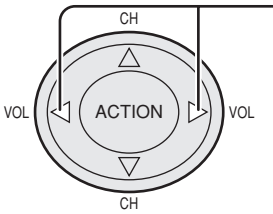


3



Press to select rating to lock.





Press to select YES or NO.

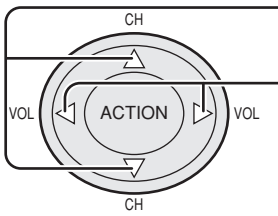
Rating (turns red when on)

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

▼

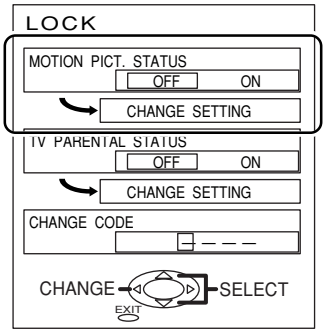
Press to return to LOCK screen.

4 Setting MOTION PICT. STATUS.
Locking and unlocking the ratings selected above.

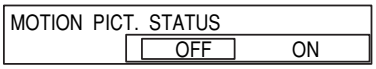


Press to select MOTION PICT. STATUS.

Press to select ON or OFF.



ON : The broadcasts selected in the MOTION PICTURE RATING menu cannot be viewed.
OFF: LOCK is deactivated and any broadcast, regardless of the setting for MOTION PICTURE RATING, can be viewed.



▼

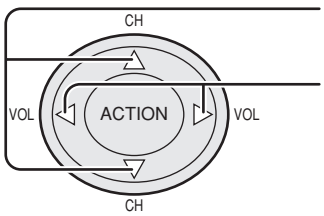
Press to set.

Setting the MOTION PICTURE RATING screen

VIEW NR PROGRAMS?

NO : The broadcasts selected in the MOTION PICTURE RATING menu cannot be viewed.
YES : LOCK is deactivated and any broadcast, regardless of the setting for MOTION PICTURE RATING, can be viewed.

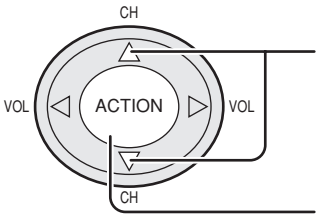
TV PARENTAL STATUS



Press to select TV PARENTAL STATUS.

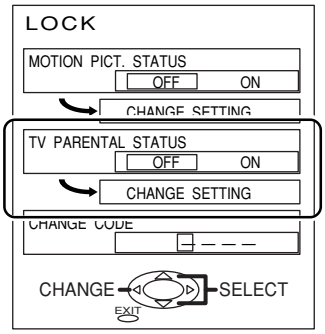
Press to select ON or OFF.

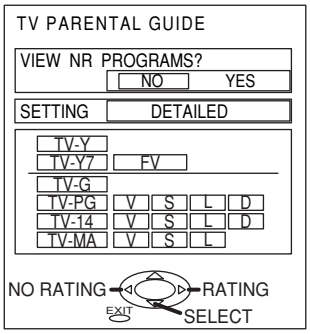
▼ Changing setting



Press to select CHANGE SETTING.

Press to display the TV PARENTAL GUIDE screen.





Setting the TV PARENTAL PROGRAMS screen

VIEW NR PROGRAMS?

NO : Cannot view programs with NR signals.

YES : Can view programs with NR signal.

SETTING

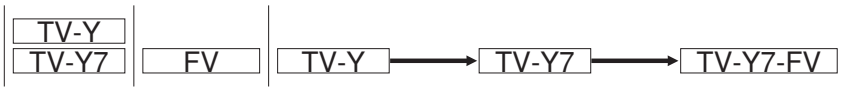
BASIC : The up △ and down ▽ buttons change the selected title.

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.

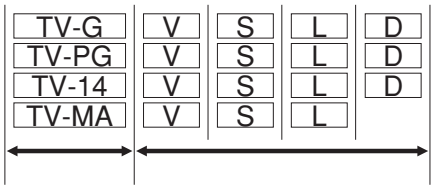
Locking and unlocking

- 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.



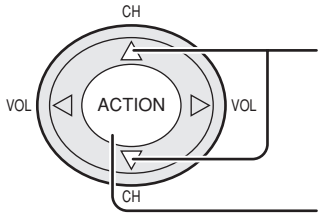
- To end adjustments → MENU — Press MENU button.

Customizing the VIDEO INPUT labels

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

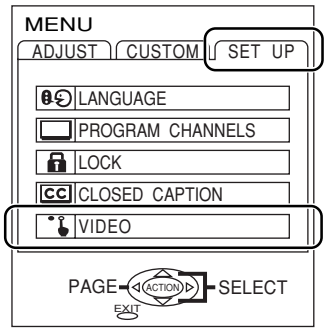
Example: When changing VIDEO 3 to LD.

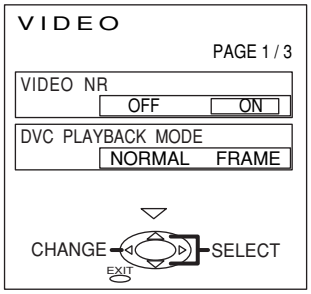
1 Press the MENU button to display the MENU screen and select SETUP.



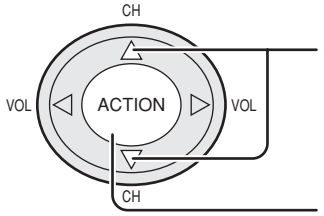
Press to select VIDEO.

Press to display the VIDEO screen.



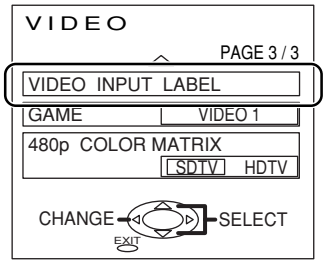


2



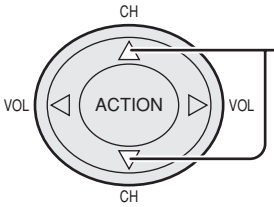
Press to select VIDEO INPUT LABEL.

Press to display the VIDEO INPUT LABEL screen.

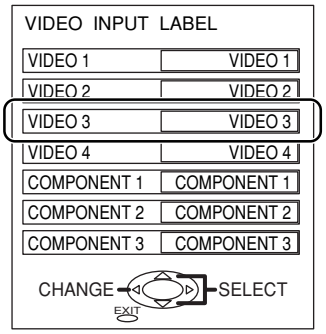


Note:
The VIDEO screen consists of 3 pages.
Use the up △ and down ▽ buttons to change pages.

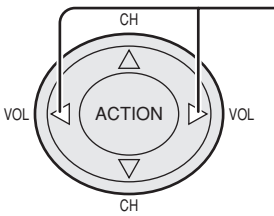
3



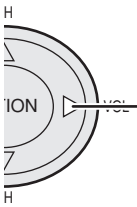
Press to select VIDEO INPUT to change.



▼

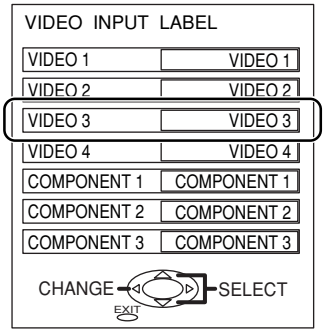


Press to change.



By pressing this button, display changes as follows:

→ VIDEO 3 → VCR → LD → GAME → DVD → HD VCR → DTV → BLANK →



This button rotates in reverse.

▼

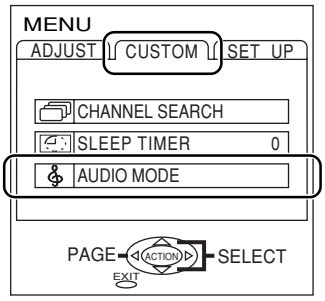
Press to exit menu.

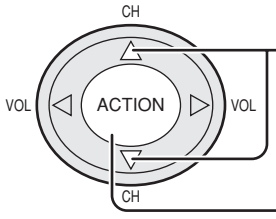
Note:
When DVD or DTV is selected for the change, images are adjusted to match each input signal.

Selecting STEREO / SAP / MONO

Mode - Stereo / SAP / Mono
When Audio is broadcast in Stereo or SAP an ON Screen display will appear on initial "Turn On" and "Channel Change". The available choices will be indicated in Green.

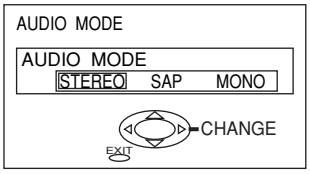
Press the MENU button to display the MENU screen and select CUSTOM .

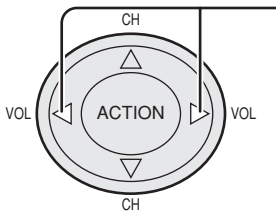




Press to select AUDIO MODE.

Press to display the AUDIO MODE screen.





Press to select STEREO / SAP / MONO.

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

Press to exit menu.

Helpful Hints:

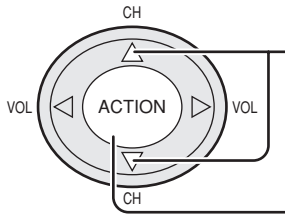
- **STEREO -** Two channel Audio reception.
- **SAP -** Second Audio Programming (typically used for bilingual audio).
- **MONO -** Use when stereo signal is weak.

Note:
AUDIO MODE is valid only during TV mode.

Using the off-timer

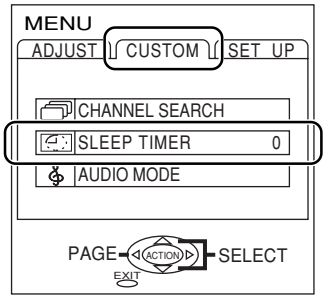
Press the MENU button to display the menu screen and select CUSTOM.

1

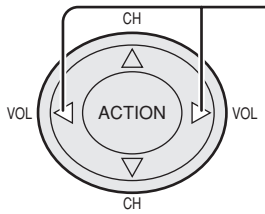


Press to select SLEEP TIMER.

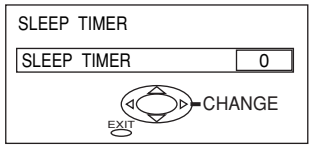
Press to displayed SLEEP TIMER adjust screen.



2



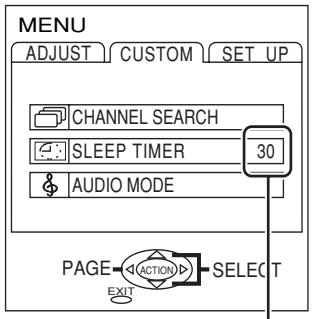
Press the left " ◁ " or right " ▷ " button and select the desired sleep time from → 0 ⟷ 30 ⟷ 60 ⟷ 90 ← minutes to select times.



▼

MENU

Press to exit menu.



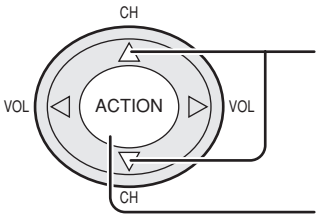
Remaining sleep time

Notes:

- When power to the projection TV set is turned off due to a power outage or similar problem, after power is restored, the off-timer will be deactivated.
- To see the remaining sleep time, press the INFO/RECALL button.
- If GAME TIME and remaining Sleep Time are displayed simultaneously, GAME TIME overrides the remaining Sleep Time.
- The remaining Sleep Time will blink onscreen while less than 3 minutes, even without pressing the recall button.

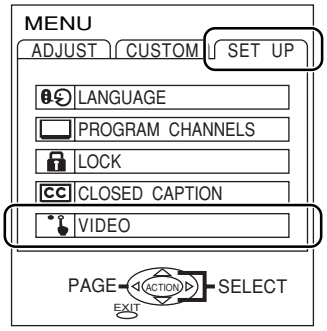
Video game player to VIDEO INPUT

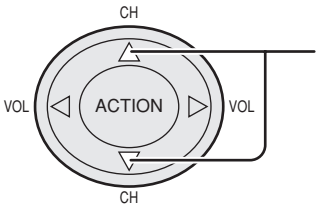
1 Press the MENU button to display the MENU screen and select SETUP.



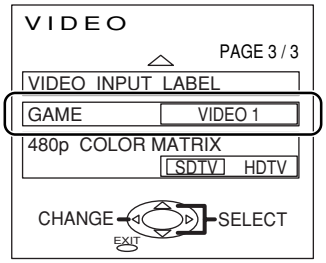
Press to select VIDEO.

Press to display the VIDEO screen.

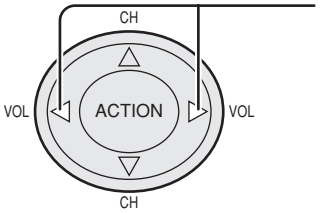




Press to select GAME.
Changing the video game player input terminal.

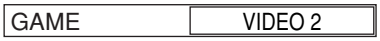


2



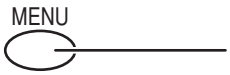
Press to select from the following.

VIDEO 1 ⟷ VIDEO 2
VIDEO 4 ⟷ VIDEO 3



Ex: When VIDEO INPUT 2 is selected.

▼



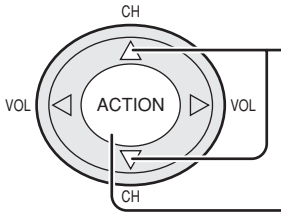
Press to exit menu.

Notes:
- Default is set for VIDEO INPUT 4 on front of the projection TV set.
- The VIDEO set up screen is made up of 3 pages.
  Use the up △ and down ▽ buttons to change pages.

Optimizing display for DVC recording mode (DVC PLAYBACK MODE)

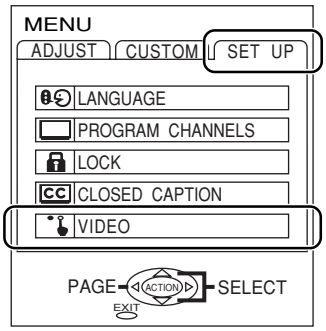
When playing back recordings made by a DVC in FRAME mode, images will have higher resolution.

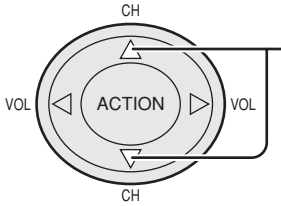
1 Press the MENU button to display the MENU screen and select SETUP.



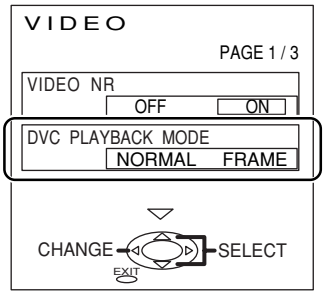
Press to select VIDEO.

Press to display the VIDEO screen.

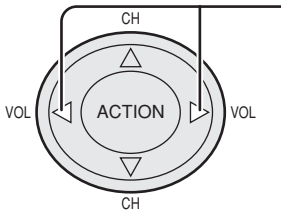




Press to select DVC PLAYBACK MODE.

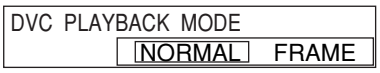


2



Press to set.

NORMAL :When playing normal images.
FRAME :When displaying FRAME recording mode.



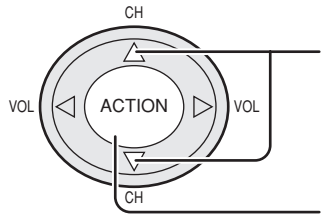
▼

Press to exit menu.

Notes:
- Switches only during VIDEO INPUT 1-4 or GAME 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.

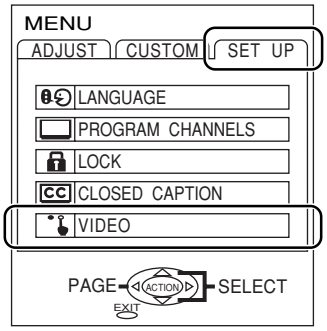
Turning OFF digital comb filter

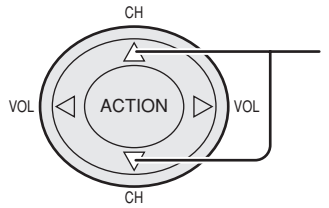
1 Press the MENU button to display the MENU screen and select SETUP.



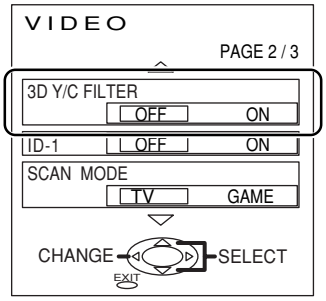
Press to select VIDEO.

Press to display the VIDEO screen.

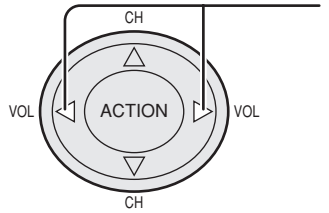




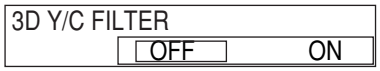
Press to select 3D Y/C FILTER.



2



Press to turn OFF.



▼

MENU

Press to exit menu.

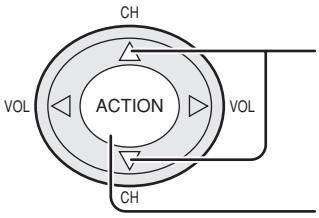
Notes:

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

Automatically changing screen size for VIDEO INPUT modes

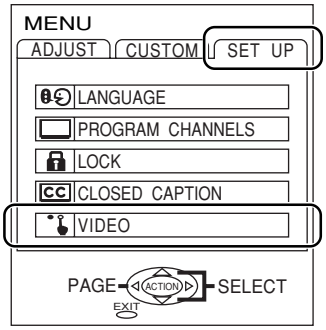
If the received signal contains screen size specifications in VIDEO INPUT (1-4) or COMPONENT VIDEO INPUT (1 – 3), the screen size is automatically changed.

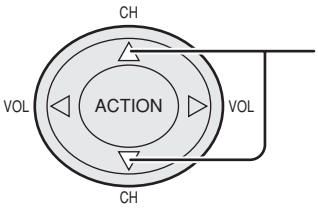
1 Press the MENU button to display the MENU screen and select SETUP.



Press to select VIDEO.

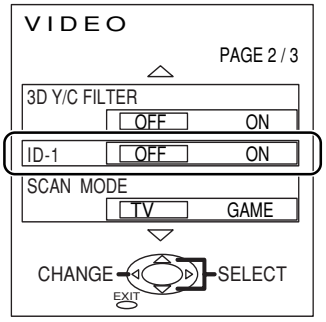
Press to display the VIDEO screen.



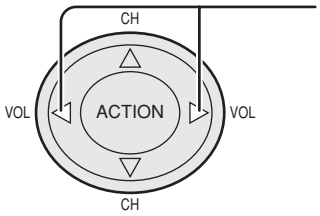


Press to select ID-1.

Note:
Use the up △ and down ▽ buttons to change pages.



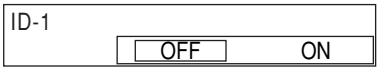
2



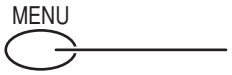
Press to set.

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.)



▼



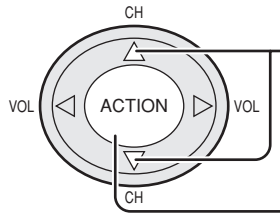
Press to exit menu.

Notes:
- When ID-1 is detected and screen size is changed, FULL or WIDE will be display.
- When displaying split screen, ID-1 is not detected.

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

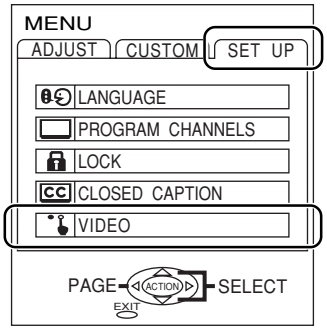
Adjust 480p signals to achieve a natural color from digital equipment connected to COMPONENT VIDEO INPUT (Y, P_b / C_b ,P_r / C_r input terminals).

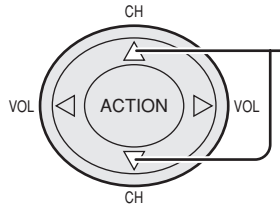
1 Press the MENU button to display the MENU screen and select SETUP.



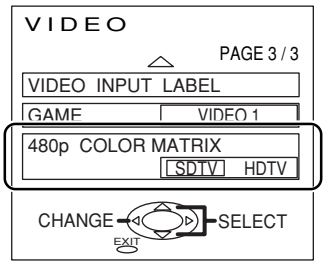
Press to select VIDEO.

Press to display the VIDEO screen.

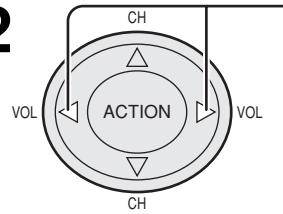




Press to select 480p COLOR MATRIX.

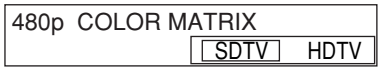


2

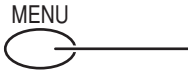


Press to set.

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



▼



Press to end.

Notes:

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

CLOCK

CLOCK is valid only during PC mode.

When an RGB signal is projected, minor adjustments of the dot clock frequency and adjustments of the phase can be made.

Adjusting the clock

When the set is connected to the PC, CLOCK can be adjust.

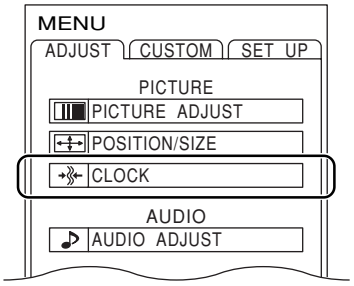
① Connect a computer to the projection TV.

②

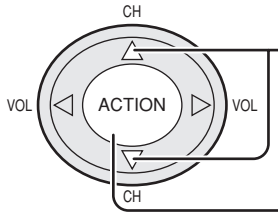
Press to select the PC mode.

③

Press to display the MENU screen.

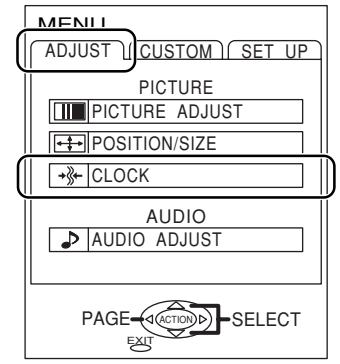


1 Press the MENU button to display the MENU screen and select CLOCK.

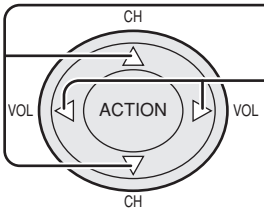


Press to select to CLOCK.

Press to display the CLOCK screen.

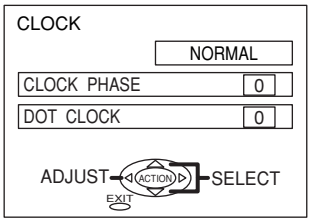


2



Press to select the CLOCK PHASE or DOT CLOCK.

Adjust the level.



▼

MENU

Press to exit menu.

CLOCK PHASE: 0 –15
DOT CLOCK: -16 – 16

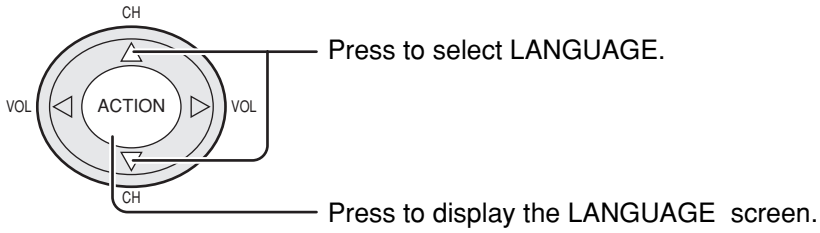
DOT CLOCK: Minor adjustments of the dot clock frequency
When a PC signal is projected, the display area of the computer image can be adjusted.

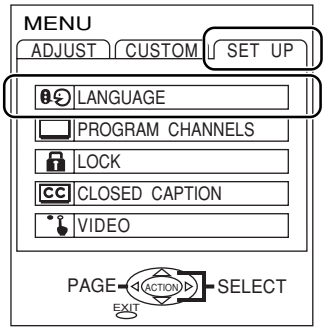
CLOCK PHASE: Phase adjustment
Flickering or bleeding of the contour appearing on the screen when projecting a PC signal, can be adjusted so that it does not appear.

Notes:
- NORMAL is displayed at default. When settings are altered, the display changes to NORMALIZE.
- The DOT CLOCK advances in increments of 2.

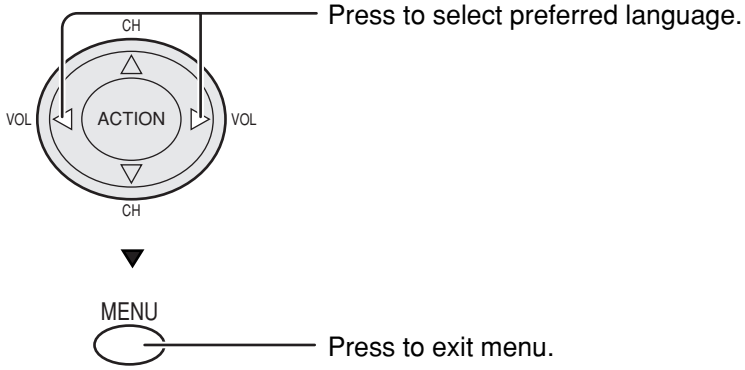
Switching languages for display

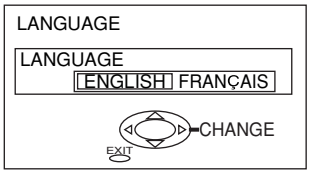
1 Press the MENU button to display the MENU screen and select SETUP.





2





Replacing the lamp unit

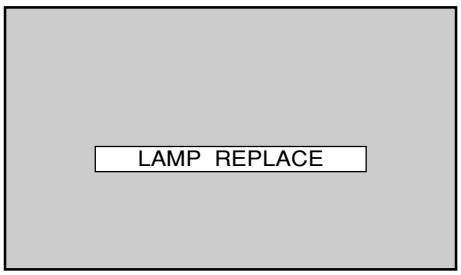
The lamp unit is sold separately. To purchase a replacement, call the Panasonic accessory department, toll free at: 1-800-332-5368.

Lamp unit Part No. : TY-LA2000

Lamp unit replacement period

The lamp unit for the projection TV should be replaced after approximately 5,000 hours of use in the normal usage mode.

- Warning display after 5,000 hours of use
  When the power has been turned off after over 5000 hours of continued use, LAMP REPLACE will be displayed for approximately 1 min. The next time the power is turned on.
  A warning message to urge the replacement of the lamp will be displayed in red at the center of the screen.



Important Points to keep in mind

When replacing the lamp unit with a new one, pay attention to the following points.

Warning:
- Because the temperature of the lamp unit is elevated immediately after its use, a direct touch to it may cause burns. Please allow the lamp to cool before handling or replacing the lamp unit.

Cautions for Lamp Unit Replacement:

- Handle the removed old lamp unit carefully. If abusing it, it may have a risk of explosion.
- Wear gloves when replacing the lamp unit.
- If replacing the lamp unit becomes necessary during the operation of the TV, follow the procedure below to turn off the power and wait until the lamp unit cools completely.

1. Press the POWER button on the remote control unit to turn off the power.

2. Wait for about 90 seconds until the cooling fan stops.
*** The lamp cooling fan will continue to operate for about 90 seconds after turning off the power. Do not unplug the power cord from the outlet until the fan has stopped. Avoid interrupting the power line such as by using circuit breakers or switchable power strips.**

3. After the cooling fan has stopped, turn off the MAIN POWER switch on the front of the projection TV.

4. Unplug the power cord from the outlet.

Refer to the instructions enclosed with the lamp unit (part no.: TY-LA2000) when replacing the lamp.

Operating peripheral equipment using the remote control

Programming The Illuminated Remote Control Using Access Codes

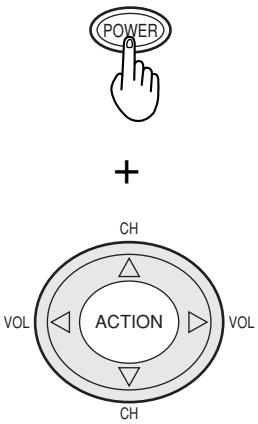
The remote control can be preset for other manufactures, by utilizing the **REMOTE MODE SELECTION BUTTONS** for **CABLE, DTV, VCR, RCVR** (a **Receiver** or **Amplifier**), **DVD** (**DVD, CD, LD**) ,**DBS** and **AUX** (for **Cassette Player** or a **VCR2**.)

(Details on remote control buttons to operate peripheral equipment → See page 65 to 67 and 68 to 70)

① Setting up the remote using the numerical keys.

(When code known):

1

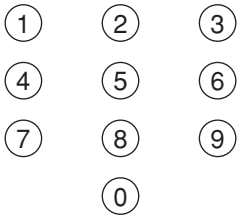


Press and hold the POWER and ACTION keys simultaneously for three full seconds.
After 3 seconds, all the illuminated mode keys will begin to flash. Then let go of the POWER and ACTION keys.

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.

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, V CR2 (Preset)	Technics Cassette Players Code
DVD	DVD & LD & CD Player (Preset)	Panasonic DVD Code
DTV	STB (Only Panasonic)	Panasonic Code

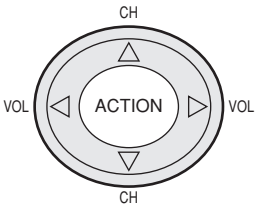
Note:
If an incorrect number is entered (or there is an incomplete entry after 28 seconds), the key illumination goes out (no blink) and setting are unchanged.

② Setting to the remote using the step and set method

(When code not known):

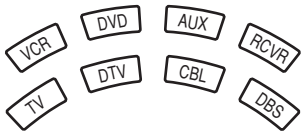
1

+



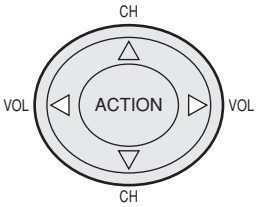
Press and hold the POWER and ACTION keys simultaneously for three full seconds.
After 3 seconds, all the illuminated mode keys will begin to flash. Then let go of the POWER and ACTION key.

2



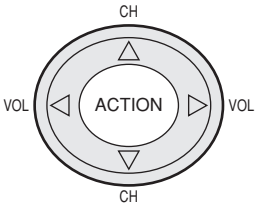
Press the mode key.
The mode key will illuminate steadily , all others will go out.

3



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.

4



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				**VCR** Video Cassette Recorder			**CD** Compact Disc Player		
DBS Digital Broadcast System				**RCVR** Receiver or Amplifier			**LD** Laser Disc Player		
Other Component				Other Component			Other Component		
Other Component				Other Component			Other Component		

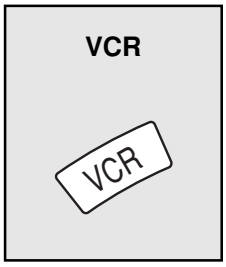
Infrared Codes Index

The remote control is capable of operating many brands of peripheral equipment. Refer to page 63 and 64 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 68 to 70 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	PENTAX	000, 011, 300
AIWA	137, 160	PHILCO	150, 130, 137, 125
AKAI	142, 014, 015, 016		136, 081
AUDIO DYNAMIC	240, 011	PHILIPS	150, 125, 130
BELL & HOWELL	005, 013	PIONEER	125
BROKSONIC	081, 136	PROSCAN	300, 000, 125, 130
CANON	125, 135		150, 310, 001, 002
CITIZEN	006	QUASAR	100, 101, 125, 130
CRAIG	005, 141, 006	RADIO SHACK	170, 130, 005, 210
CURTIS MATHES	300, 130, 137		009, 241, 137
DAEWOO	250, 001, 130	RCA	170, 300, 000, 125
DBX	240, 010, 011		130, 150, 310, 001
DIMENSIA	300		002
EMERSON	250, 136, 080, 003	REALISTIC	130, 005, 210, 009
	135, 243, 081		241, 137
FISHER	005, 008, 009, 007	SAMSUNG	220, 002, 004
FUNAI	137, 136, 081	SANSUI	240, 136, 081, 520
GE	170, 300, 130	SANYO	005, 009
GO VIDEO	220, 512	SCOTT	001, 002, 004, 009
GOLDSTAR	006		230, 241, 330, 340
HITACHI	125, 300, 000		136, 081
INSTANT REPLAY	130, 125	SEARS	005, 006, 007, 008
JENSEN	240		000
JVC	240, 010, 011, 190	SHINTOM	050
KENWOOD	240,,010, 006, 011	SHARP	200, 210
LXI	137, 006, 000, 007	SIGNATURE 2000	137, 200
	008, 005, 009	SINGER	050
MAGNAVOX	150, 125, 130	SONY	140, 141, 142
MARANTZ	240, 010, 011	SV2000	137
MARTA	006	SYLVAVIA	150, 125, 130, 137
MEMOREX	130, 009	SYMPHONIC	137
MGA	230, 241, 330, 340	TASHIRO	006
	242, 243	TATUNG	240, 010, 011
MINOLTA	000, 300	TEAC	240, 010, 137, 011
MITSUBISHI	230, 241, 330, 340	TECHNICS	100, 101, 125, 130
	242, 243	TEKNIKA	130, 137
MULTITECH	330, 137, 004	TOSHIBA	001, 310
NEC	240, 010, 011, 190	VECTOR RESEARCH	011
OLYMPIC	130, 125	WARDS	200, 210, 009, 290
OPTIMUS	140, 100, 200, 006		006
ORION	136, 081	YAMAHA	005, 240, 010, 011
PANASONIC	125, 130, 100, 101	ZENITH	290
PENNEY	130, 000, 300, 005,		
	240, 010, 011		

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

Cable

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
CURTIS	130, 131		731, 900
DIAMOND	530, 544, 531	REGENCY	560
EAGLE	541	REMBRANT	702, 544, 005
EASTERN	560	SAMSUNG	005
GCBRAND	544, 005	SCIENTIFIC ATLANTA	122, 130, 131
GEMINI	522	SLMARK	005, 001
GENERAL INSTRUMENT / JERROLD	360, 530, 531, 532	SPRUCER	005, 121
	533, 520, 521, 522	STARGATE	544, 005
	122	TELEVIEW	001, 005
HAMLIN	720, 730, 731, 900	TEXSCAN	810
	350, 130	TOCOM	700, 701
HITACHI	003, 530	TOSHIBA	004
MACOM	003, 004, 005	UNIKA	544, 531
MEMOREX	542	UNIVERSAL	522, 544
MOVIETIME	544, 005	VIDEOWAY	006
OAK	710, 702, 002	VIEWSTAR	541, 542
PANASONIC	120, 121, 132	ZENITH	280, 000
PHILIPS	541, 542, 006	ZENITH / DRAKE SATELLITE	000
PIONEER	001, 260		

DVD, CD, LD Player

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.
PANASONIC	200, 201, 235, 380
PIONEER	370
SONY	240, 241, 242, 243

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		

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

Cassette Players

Maker List (TAPE)			
Maker	**Set Up No.**	**Maker**	**Set Up No.**
PANASONIC	700, 730	TECHNICS	700, 730

Receiver Amplifiers

Maker List (RCVR)			
Maker	**Set Up No.**	**Maker**	**Set Up No.**
ADMIRAL	110	PANASONIC	101, 100, 130
AIWA	160, 161	PHILIPS	150
DENON	200, 201, 202	PIONEER	030, 032
FISHER	004	QUASAR	101, 100, 130
GARRARD	055	RCA	003, 030, 162, 171
HARMAN KARDON	057, 150		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
OPTIMUS	003, 162, 171, 170		

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

Remote Control
Quick Reference Functional Key Control

KEY	MODE	FUNCTION
1 2 3 4 5 6 7 8 9 0	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
POWER	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	TV Mode Selection for Remote Control
CBL	CABLE	Cable Mode Selection for Remote Control
DBS	DBS	DBS Mode Selection for Remote Control
VCR	VCR	VCR Mode Selection for Remote Control
RCVR	Receiver / Amplifier	Receiver / Amplifier Mode Selection for Remote Control
DVD	Digital Video Disc	DVD (DVD, CD, LD) Mode Selection for Remote Control
AUX	Cassette Tape Player, VCR2	AUX Mode Selection for Remote Control Enables User to Operate a Tape Cassette Player, or VCR2
CH ▲ ◀ ▶ ▼ CH	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 –
VOL ▲ ◀ ▶ ▼ VOL	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

Remote Control
Quick Reference Functional Key Control

KEY	MODE	FUNCTION
R-TUNE	TV	Selects Previously Tuned Channel
	CABLE	Selects Previously Tuned Channel
	DBS	Selects Previously Tuned Channel
	DVD (DVD)	Selects Previously Title
	DVD (CD)	Selects Next Disc
	DVD (LD)	Side A / B
	DTV	Prev. Ch
	AUX (Tape Cassette Player)	Selects Tape Cassette Player A or B
ACTION	TV	Activities TV Menus
	CABLE	Enter
	DBS	DBS Action
	DTV	STB Action
	DVD	Select
INFO/RECALL	TV, CBL	Display Information (Channel, Time, Audio Mode, Power Save Mode)
	VCR	Display Current VCR Settings
	DBS	Display Current DBS Settings
	DTV	Display Current DTV Settings
	DVD (DVD)	Display Current DVD Settings
	DVD (CD)	Display Time format
	DVD (LD)	Display Current LD Settings
REW	VCR	VCR REW
	DVD (DVD, LD)	Skip Search <<
	DVD (CD)	Search REW
	RCVR	Surround –
	AUX (Tape Cassette Player)	Tape REW
SPLIT FF	TV	SPLIT ON / OFF
	VCR	VCR FF
	DVD (DVD, LD)	Skip Search >>
	DVD (CD)	Search FF
	RCVR	Surround +
	AUX (Tape Cassette Player)	Tape FF
PLAY	VCR	VCR Play
	DVD (DVD, CD, LD)	Play
	AUX (Tape Cassette Player)	Tape Play
SEARCH STOP	TV	SPLIT Search
	VCR	VCR Stop
	DVD (DVD, CD, LD)	Stop
	AUX (Tape Cassette Player)	Tape Stop
VCR REC	VCR, CABLE	VCR Record
	DBS	DBS Record
	DTV	Info (EPG)
	AUX (Tape Cassette Player)	Tape Record
SWAP PAUSE STILL	TV	SPLIT Swap
	VCR	VCR Pause
	DVD (DVD, LD)	Still
	DVD (CD)	Pause
	AUX (Tape Cassette Player)	Tape Pause

Remote Control
Quick Reference Functional Key Control

KEY	MODE	FUNCTION
FREEZE TV/VCR OPEN/CLOSE	TV VCR DVD (DVD, CD, LD) AUX (Tape Cassette Player)	SPLIT Freeze 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 –
AV-ADJ	TV	AV-Adjust
NORMAL	TV	NORMAL
GAME	TV DBS DVD RCVR	Game DBS Page Down Skip – Tuner –
RH-SPLIT	TV DBS DVD RCVR	RH-SPLIT 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

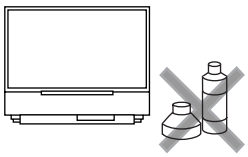
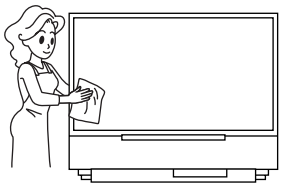
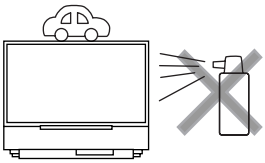
Troubleshooting

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

Symptoms	Checks	Page
Power does not turn ON	• Is the power plug plugged in? • If the power does not turn on using the remote, check if the projection TV set is turned on. • Is the Power Indicator blink Orange?	20 20 20, 21
The power turns OFF (the Power LED blinks Orange and the TEMP LED and LAMP LED lights up Red).	• Check whether or not the sir vents are clogged. • Is the set begin use in a location that is hot? → Turn the set on using the power button on the remote control after the Power LED has lit up Red. (When the Power LED is blinking Orange, the cooling fan is operating.) This indicates that the set is heated and has not cooled off enough. ▼ The lamp may be malfunctioning if the power does not turn on even after the above steps. Please consult your nearest dealer.	– – –
Remote control does not function	• Are the batteries dead or inserted incorrectly? • Is the remote control sensor in direct light of florescent lamps or other strong sources of light?	7 –
Image shakes Image is not clear Color patches or no color	• Is the antenna or antenna cable old, broken or shorted? • Is the antenna cable connected properly? • When using a VCR and selecting channels on the TV, is the TV/VIDEO mode for the VCR set to TV?	– 8, 9, 10 –
Image appears doubled or tripled.	• Is the antenna facing the right direction? • Is the antenna receiving any signals reflected off of mountains or buildings.	– –
A black stripe appears for a moment when changing channels using the VCR.	• The image distorts when channels are changed.	–
Images disappear at the top and bottom of the screen	• When using 16:9 image software, there is no picture at the top and bottom of the screen (cinema vision size software, etc.).	–
During ZOOM or JUST modes, the image is cut off at the top and bottom.	• Has the screen position been changed? → If so, adjust screen positioning.	28, 29
Channel number remains displayed.	• Press the INFO/RECALL button. During VIDEO input, channel number is displayed until an image is displayed.	35
The projection TV set makes a cracking sound	• If there are no problems with image or sound, it is the sound of the cabinet shrinking due to room temperature changes. This is not a malfunction.	–
The projection TV set makes a high whistling sound when the power is ON.	• This is the sound of the internal (DLP™) starting UP. This is not a malfunction.	–
Some parts of the screen do not light up.	• DLP™ is manufactured using an extremely high level of precision technology, however sometimes some parts of the screen may be missing picture elements. This is not a sign of a malfunction.	–

Cleaning

To ensure continued excellent performance by this product, periodic cleaning is recommended.

	The unit contains many plastic parts. For this reason DO NOT use benzine, thinner or other chemicals to clean the unit.		Dust will accumulate on the picture screen. Please wipe with the supplied soft cloth (Part No: TPEX007) from time to time. If you use a chemically treated cloth, please be careful to follow the instructions that come with the cloth.
	DO NOT bring into contact with insecticide or other volatile substances. DO NOT allow the unit to come into contact for extended periods with rubber or vinyl products.		Remove dirt and soiling by wiping with a light cloth. Even if the unit is heavily soiled, do not apply cleaner directly to the unit. Soak a cloth in a solution of neutral cleanser thinned with water. Then wring out the cloth, wipe the unit clean, and finish by wiping with a dry cloth. Do not use any type of cleansers on the picture screen.

Specifications

Power Source		AC 120 V, 60 Hz
Power Consumption		Average use : Maximum Current 3.8 A Stand-by condition : 0.74 W (when cooling fan is stopped)
Display		52-inch, 16 : 9 aspect ratio
Screen Size		45.31 ″ (1151 mm) (W) × 25.49 ″ (647.5 mm) (H) × 52 ″ (1321 mm) (diagonal)
Sound	**Speaker**	4 Speakers
	Audio Output	20 W [10 W + 10 W] (10 % THD)
HID Lamp		200 W HID (High Intensity Discharge) Lamp (recommended replacement period approximately 5000 hours)
Channel Capability-181		VHF-12 : UHF-56 : Cable-125
Accessories Supplied		Remote control Transmitter EUR511162 R6 (AA) Battery × 2 RGB cable : TSXF147
Input signals		RGB input D-SUB 15pin AV INPUT 1- 4 VIDEO 1.0 Vp-p (75 Ω) (RCA Pin Jack Type) S-VIDEO Y : 1 Vp-p (75 Ω), C : 0.286 Vp-p (75 Ω) (not supplied for AV INPUT 3) (Mini DIN 4pin) AUDIO L-R 0.5 Vrms (RCA Pin Jack Type × 2) TO AUDIO AMP AUDIO L-R 0.5 Vrms (RCA Pin Jack Type × 2) COMPONENT VIDEO Y 1.0 Vp-p (including synchronization) INPUT 1-3 P_B / P_R ± 0.35 Vp-p AUDIO L-R 0.5 Vrms (RCA Pin Jack Type × 2)
Output signals		AV PROG. OUT VIDEO 1.0 Vp-p (75 Ω) (RCA Pin Jack Type) S-VIDEO Y : 1 Vp-p (75 Ω), C : 0.286 Vp-p (75 Ω) (Mini DIN 4pin) AUDIO L-R 0.5 Vrms (RCA Pin Jack Type × 2)
Dimensions (W × D × H)		47.7 ″ (1211 mm) × 17.7 ″ (450 mm) × 39.2 ″ (995 mm)
Weight (Mass)		130 lbs. (59 kg) Net

Operating conditions	Temperature : 34 °F - 104 °F (0 ° – 40 °C) Humidity : 20 % - 80 % (non-condensing)

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

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MEMO

Customer' Record

The serial number of this product can be found on its back cover. 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 PT-52DL10 _____ 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

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