

Panasonic®

Operating Instructions LCD Display

Model No. **TH-32LHD7UY**



The illustration shown is an image.

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

English

	CAUTION 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.

WARNING : To prevent damage which may result in fire or shock hazard, do not expose this apparatus to rain or moisture.
Do not place containers with water (flower vase, cups, cosmetics, etc.) above the set.
(including on shelves above, etc.)

WARNING : 1) To prevent electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.
2) Do not remove the grounding pin on the power plug. This apparatus is equipped with a three pin grounding-type power plug. This plug will only fit a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact an electrician.
Do not defeat the purpose of the grounding plug.



Important Safety Instructions

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments / accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart / apparatus combination to avoid injury from tip-over.
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- 15) To prevent electric shock, ensure the grounding pin on the AC cord power plug is securely connected.



Dear Panasonic Customer

Welcome to the Panasonic family of customers. We hope that you will have many years of enjoyment from your new LCD Display.

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 as well, and record the model number and serial number of your set in the space provided on the rear cover of these instructions.

Table of Contents

Important Safety Instructions	3	ADVANCED SETTINGS.....	23
FCC STATEMENT	5	SOUND Adjustment	24
Safety Precautions	6	MUTE	24
MAINTENANCE	7	Digital Zoom	25
Accessories	8	PRESENT TIME SETUP / SET UP TIMER	26
Accessories Supplied.....	8	PRESENT TIME SETUP	26
Remote Control Batteries	8	SET UP TIMER	27
Connections	9	Reduces power consumption	28
PC Input Terminals connection.....	10	Customizing the Input labels	28
SERIAL Terminals connection	11	SET UP for Input Signals	29
AV & COMPONENT connection.....	12	COMPONENT / RGB IN SELECT.....	29
RGB signal (R, G, B, HD, VD).....	12	3D Y/C FILTER.....	29
Power ON / OFF	13	COLOR SYSTEM / Panasonic AUTO	30
Basic Controls	14	3:2 PULLDOWN / VIDEO NR.....	30
On-Screen Menu Displays	16	SYNC	31
Initial selections	18	H-FREQ. (kHz) / V-FREQ. (Hz).....	31
Selecting the input signal	18	Shipping condition	32
Selecting the On-Screen Menu Language	18	Troubleshooting	33
ASPECT Controls	19	VIDEO/COMPONENT/RGB/PC input signals	34
Adjusting PICTURE POSITION / SIZE	20	Specifications	35
MULTI PIP	21		
PICTURE Adjustments	22		

FCC STATEMENT

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 technician for help.

FCC CAUTION:

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

To assure continued compliance and possible undesirable interference, the provided ferrite cores must be used when connecting this LCD display to video equipment; and maintain at least 40 cm spacing to other peripheral devices. Refer to instructions on page 10, 11 and 12. Any changes or modifications not expressly approved by Panasonic Corporation of North America could cause harmful interference and would void the user's authority to operate this device.

FCC Declaration of Conformity

Model No. TH-32LHD7UY

Responsible Party: Panasonic Corporation of North America
One Panasonic Way, Secaucus, NJ 07094
Contact Source: Panasonic Consumer Electronics Company
1-888-843-9788
email: consumerproducts@panasonic.com

CANADIAN NOTICE:

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

Trademark Credits

- 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.

Safety Precautions



CAUTION

This LCD Display is for use only with the following optional accessories. Use with any other type of optional accessories may cause instability which could result in the possibility of injury.

(All of the following accessories are manufactured by Matsushita Electric Industrial Co., Ltd.)

- Speaker TY-SP32L7W-K
- Pedestal TY-ST32L7-K
- Wall-hanging bracket (angled) TY-WK32LR1S
- BNC Component Video Terminal Board TY-42TM6A
- BNC Composite Video Terminal Board TY-42TM6B
- RCA Component Video Terminal Board TY-42TM6Z
- RCA Composite Video Terminal Board TY-42TM6V
- RGB (Digital) Terminal Board TY-42TM6D
- RGB Active Through Terminal Board TY-42TM6G
- PC Input Terminal Board TY-42TM6P
- Composite / Component Video Terminal Board TY-42TM6Y
- SDI Terminal Board TY-FB7SD
- HD-SDI Terminal Board TY-FB7HD
- HDMI Terminal Board TY-FB7HM
- Wireless Presentation Board TY-FB7WPU

Always be sure to ask a qualified technician to carry out set-up.

Do not leave unused small parts or similar within the reach of young children.

There is a risk that they may accidentally swallow them. Be equally careful about packaging materials and plastic sheets, etc.

- If you think a child may have swallowed such items, be sure to consult with a physician immediately.

■ When using the LCD Display

Be sure to disconnect all cables before moving the LCD Display.

- Moving the Display with its cables attached might damage the cables which, in turn, can cause fire or electric shock.

Disconnect the power plug from the wall outlet as a safety precaution before carrying out any cleaning.

- Electric shocks can result if this is not done.

Clean the power cable regularly to prevent it from becoming dusty.

- Built-up dust on the power cord plug can increase humidity which might damage the insulation and cause fire. Unplug the cord from the wall outlet and clean it with a dry cloth.

This LCD Display radiates infrared rays, therefore it may affect other infrared communication equipment. Install your infrared sensor in a place away from direct or reflected light from your LCD Display.

WARNING

■ Setup

Do not place the LCD Display on sloped or unstable surfaces.

- The LCD Display may fall off or tip over.

Do not place any objects on top of the LCD Display.

- If water spills onto the LCD Display or foreign objects get inside it, a short-circuit may occur which could result in fire or electric shock. If any foreign objects get inside the LCD Display, please consult an Authorized Service Center.

Do not cover the ventilation holes.

- Doing so may cause the LCD Display to overheat, which can cause fire or damage to the LCD Display.

If using the pedestal (optional accessory), leave a space of 3 15/16" (10 cm) or more at the top, left and right, 1 31/32" (5 cm) or more at the bottom, and 2 3/4" (7 cm) or more at the rear. If using some other setting-up method, leave a space of 3 15/16" (10 cm) or more at the top, bottom, left and right, and 2 3/8" (6 cm) or more at the rear.

■ AC Power Supply Cord

The LCD Display is designed to operate on 120 V AC, 50/60 Hz.

Securely insert the power cord plug as far as it will go.

- If the plug is not fully inserted, heat may be generated which could cause fire. If the plug is damaged or the wall socket plate is loose, they should not be used.

Do not handle the power cord plug with wet hands.

- Doing so may cause electric shocks.

Do not do anything that might damage the power cable. When disconnecting the power cable, hold the plug, not the cable.

- Do not make any modifications, place heavy objects on, place near hot objects, heat, bend, twist or forcefully pull the power cable. Doing so may cause damage to the power cable which can cause fire or electric shock. If damage to the cable is suspected, have it repaired at an Authorized Service Center.

If the LCD Display will not be used for a long period of time, unplug the power cord from the wall outlet.

■ If problems occur during use

If a problem occurs (such as no picture or no sound), or if smoke or an abnormal odor is detected from the LCD Display, unplug the power cord immediately.

- Continuous use of the Display under these conditions might cause fire or permanent damage to the unit. Have the Display evaluated at an Authorized Service Center. Services to the Display by any unauthorized personnel are strongly discouraged due to its high voltage dangerous nature.

If water or foreign objects get inside the LCD Display, if the LCD Display is dropped, or if the cabinet becomes damaged, disconnect the power cord plug immediately.

- A short may occur, which could cause fire. Contact an Authorized Service Center for any repairs that need to be made.

MAINTENANCE

The front of the display panel has been specially treated. Wipe the panel surface gently using only a cleaning cloth or a soft, lint-free cloth.

- If the surface is particularly dirty, wipe with a soft, lint-free cloth which has been soaked in pure water or water to which a small amount of neutral detergent has been added, and then wipe it evenly with a dry cloth of the same type until the surface is dry.
- Do not scratch or hit the surface of the panel with fingernails or other hard objects, otherwise the surface may become damaged. Furthermore, avoid contact with volatile substances such as insect sprays, solvents and thinner, otherwise the quality of the surface may be adversely affected.

If the cabinet becomes dirty, wipe it with a soft, dry cloth.

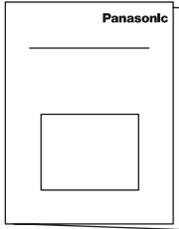
- If the cabinet is particularly dirty, soak the cloth in water to which a small amount of neutral detergent has been added and then wring the cloth dry. Use this cloth to wipe the cabinet, and then wipe it dry with a dry cloth.
- Do not allow any detergent to come into direct contact with the surface of the LCD Display. If water droplets get inside the unit, operating problems may result.
- Avoid contact with volatile substances such as insect sprays, solvents and thinner, otherwise the quality of the cabinet surface may be adversely affected or the coating may peel off. Furthermore, do not leave it for long periods in contact with articles made from rubber or PVC.

Accessories

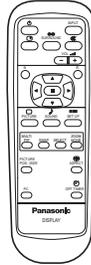
Accessories Supplied

Check that you have the Accessories and items shown

Operating
Instruction book



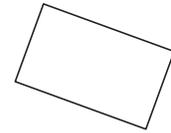
Remote Control
Transmitter
EUR646535



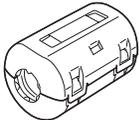
Batteries for the
Remote Control
Transmitter
(AA Battery × 2)



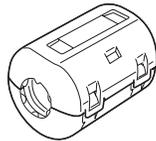
Warranty



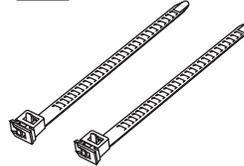
Ferrite core
(Small size) × 2



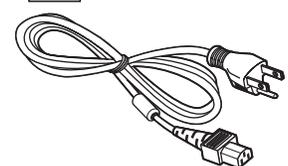
Ferrite core
(Large size) × 2



Fixing bands × 2



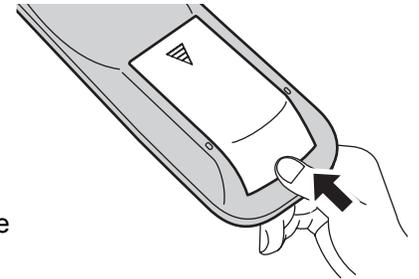
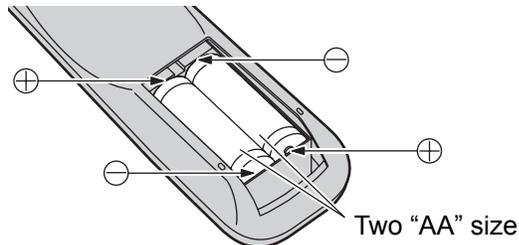
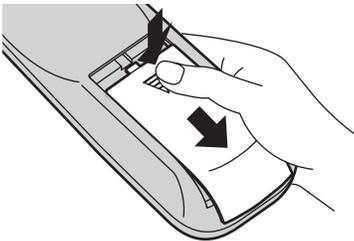
AC cord



Remote Control Batteries

Requires two AA batteries.

1. Turn the transmitter face down.
Press and slide off the battery cover.
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.

Precaution on battery use

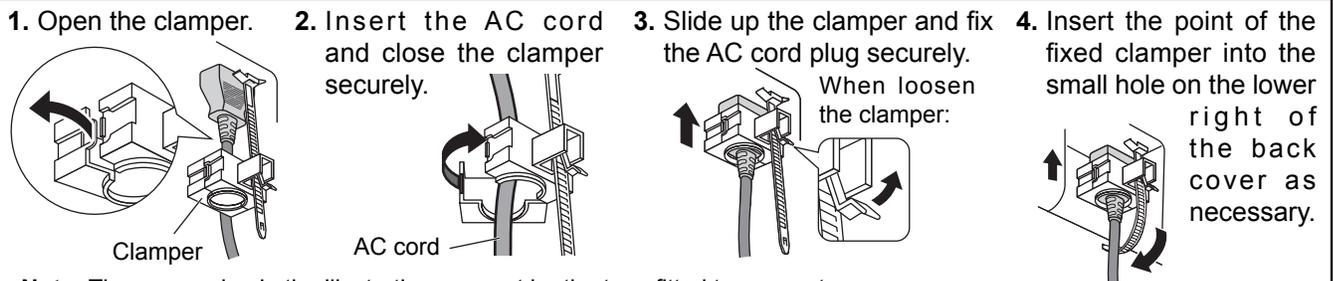
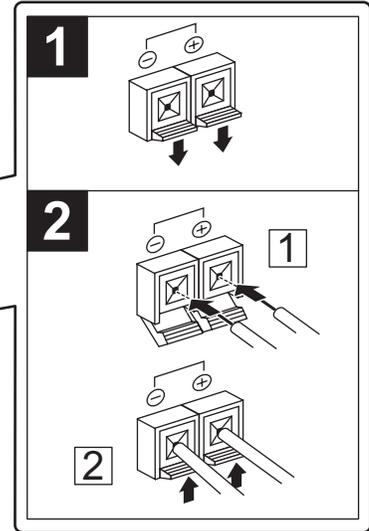
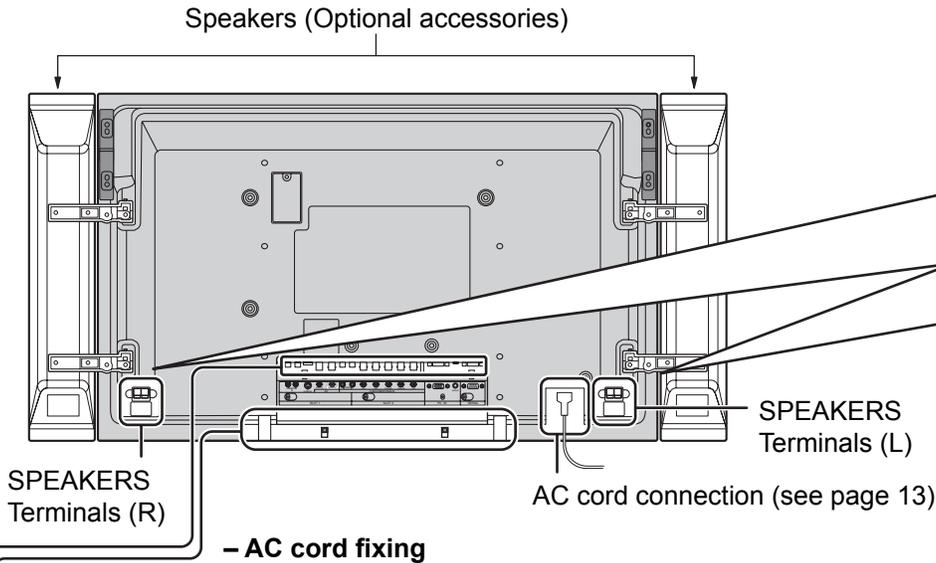
Incorrect installation can cause battery leakage and corrosion that will damage the remote control transmitter. Disposal of batteries should be in an environment-friendly manner.

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 LCD Display.

Connections

When connecting the speakers, be sure to use only the optional accessory speakers. Refer to the speaker's Installation Manual for details on speaker installation.



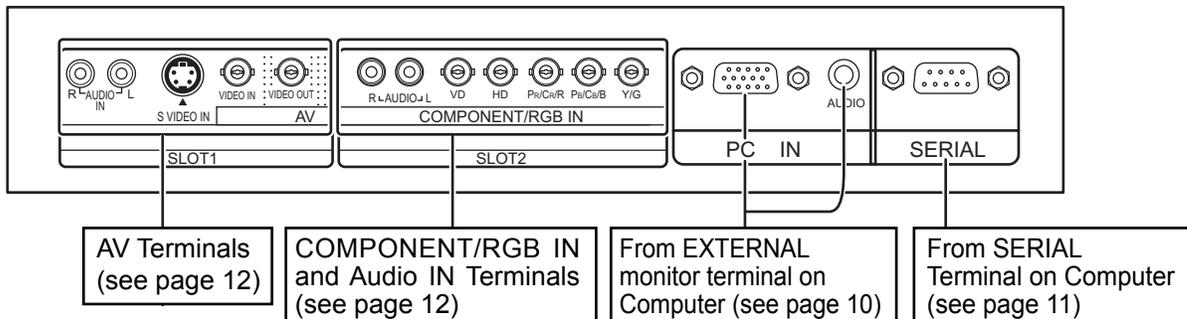
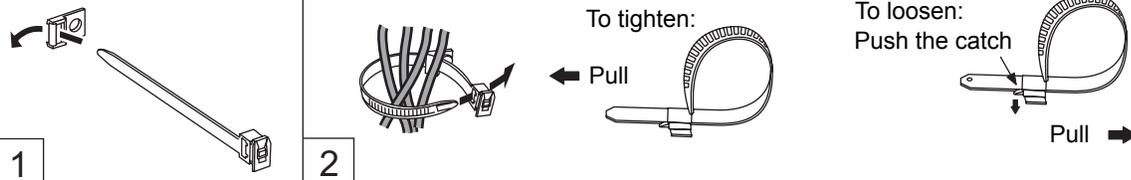
Note: The power plug in the illustration may not be the type fitted to your set.

- Cable fixing bands

Secure any excess cables with bands as required.

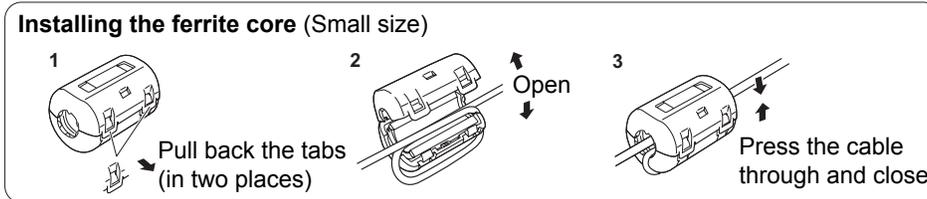
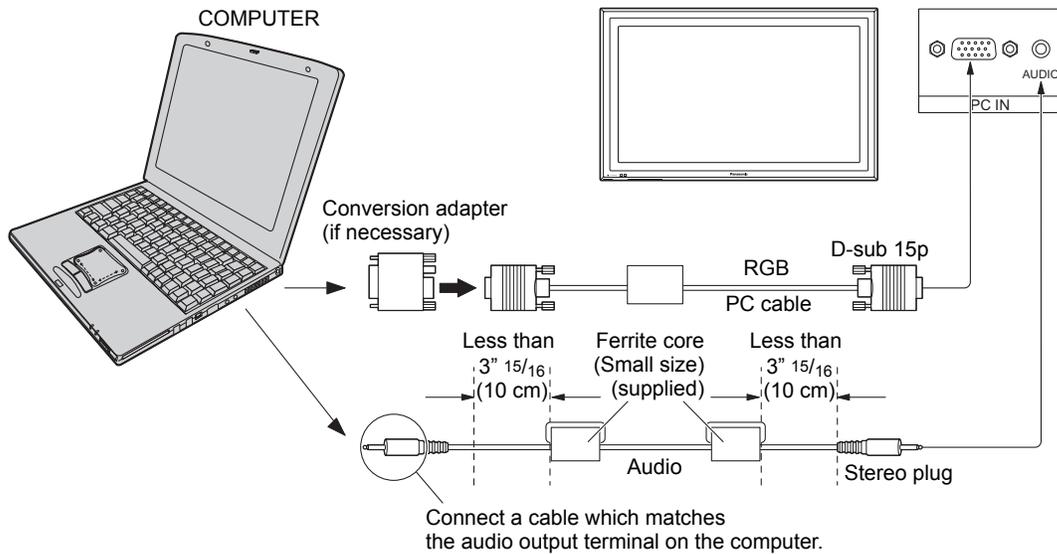
Pass the attached cable fixing band through the clip as shown in the figure.

To secure cables connected to Terminals, wrap the cable fixing band around them then pass the pointed end through the locking block, as shown in the figure. **While ensuring there is sufficient slack in cables to minimize stress (especially in the power cord), firmly bind all cables with the supplied fixing band.**



Note: At factory shipment, Terminal boards are installed in SLOT 1 and SLOT 2.

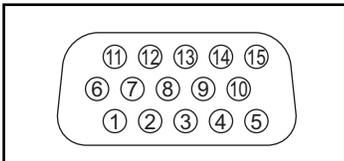
PC Input Terminals connection



Notes:

- Computer signals which can be input are those with a horizontal scanning frequency of 15 to 110 kHz and vertical scanning frequency of 48 to 120 Hz. (However, the image will not be displayed properly if the signals exceed 1,200 lines.)
- The display resolution is a maximum of 1,024 × 768 dots when the aspect mode is set to “NORMAL”, and 1,366 × 768 dots when the aspect mode is set to “FULL”. If the display resolution exceeds these maximums, it may not be possible to show fine detail with sufficient clarity.
- 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 to the computer at the time of connection.
- Some PC models cannot be connected to the set.
- There is no need to use an adapter for computers with DOS/V compatible D-sub 15P terminal.
- The computer shown in the illustration is for example purposes only.
- Additional equipment and cables shown are not supplied with this set.
- Do not set the horizontal and vertical scanning frequencies for PC signals which are above or below the specified frequency range.

Signal Names for D-sub 15P Connector

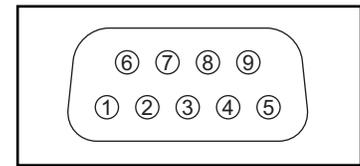
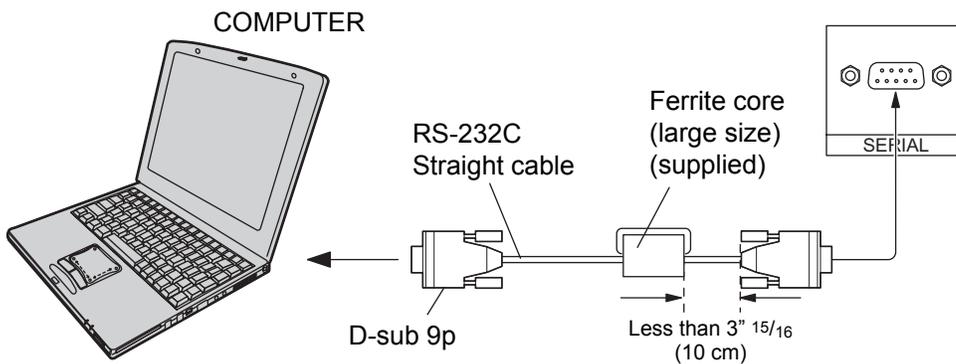


Pin Layout for PC Input Terminal

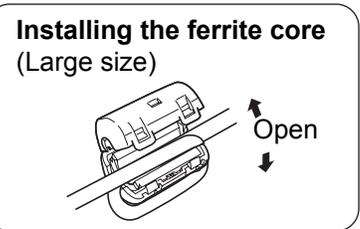
Pin No.	Signal Name	Pin No.	Signal Name	Pin No.	Signal Name
①	R (P _R /C _R)	⑥	GND (Ground)	⑪	GND (Ground)
②	G (Y)	⑦	GND (Ground)	⑫	SDA
③	B (P _B /C _B)	⑧	GND (Ground)	⑬	HD/SYNC
④	GND (Ground)	⑨	NC (not connected)	⑭	VD
⑤	GND (Ground)	⑩	GND (Ground)	⑮	SCL

SERIAL Terminals connection

The SERIAL terminal is used when the LCD Display is controlled by a computer.



Pin layout for RS-232C



Notes:

- Use the RS-232C cable to connect the computer to the LCD Display.
- The computer shown is for example purposes only.
- Additional equipment and cables shown are not supplied with this set.

The SERIAL terminal conforms to the RS-232C interface specification, so that the LCD Display can be controlled by a computer which is connected to this terminal.

The computer will require software which allows the sending and receiving of control data which satisfies the conditions given below. Use a computer application such as programming language software. Refer to the documentation for the computer application for details.

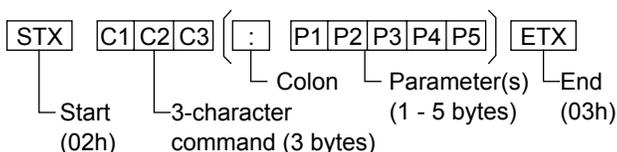
Communication parameters

Signal level	RS-232C compliant
Synchronization method	Asynchronous
Baud rate	9600 bps
Parity	None
Character length	8 bits
Stop bit	1 bit
Flow control	-

RS-232C Conversion cable	
D-sub 9-pin female	Details
②	R X D
③	T X D
⑤	GND
④ • ⑥	Non use
⑦	Shorted
⑧	
① • ⑨	NC

Basic format for control data

The transmission of control data from the computer starts with a STX signal, followed by the command, the parameters, and lastly an ETX signal in that order. If there are no parameters, then the parameter signal does not need to be sent.



Notes:

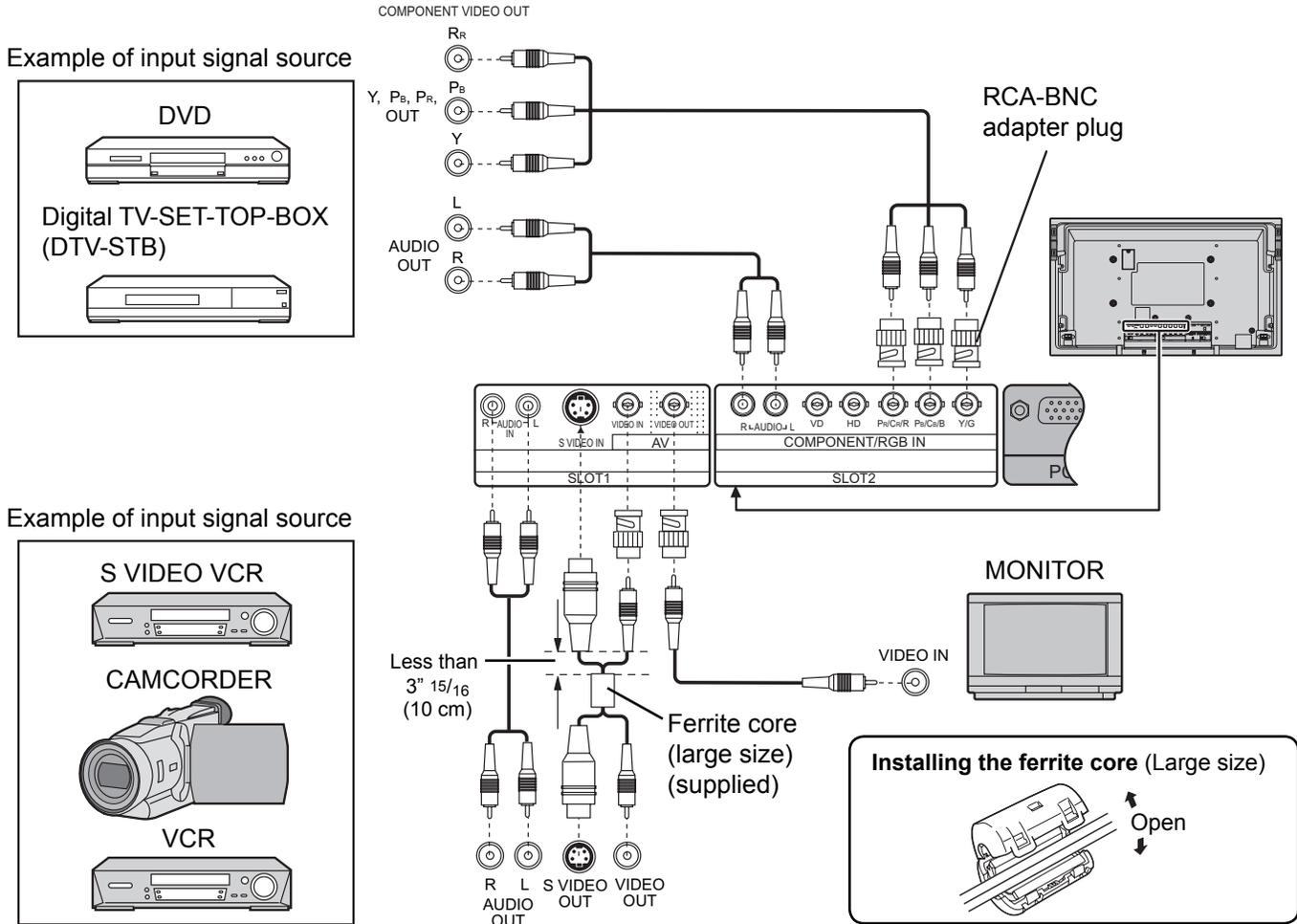
- If multiple commands are transmitted, be sure to wait for the response for the first command to come from this unit before sending the next command.
- If an incorrect command is sent by mistake, this unit will send an “ER401” command back to the computer.

Command

Command	Parameter	Control details
PON	None	Power ON
POF	None	Power OFF
AVL	**	Volume 00 - 63
AMT	0	Audio MUTE OFF
	1	Audio MUTE ON
IMS	None	Input select (toggle)
	SL1	Slot1 input
	SL2	Slot2 input
	PC1	PC input
DAM	None	Screen mode select (toggle)
	NORM	NORMAL (4 : 3)
	ZOOM	ZOOM
	FULL	FULL
	JUST	JUST
	SELF	Panasonic AUTO

With the power off, this display responds to PON command only.

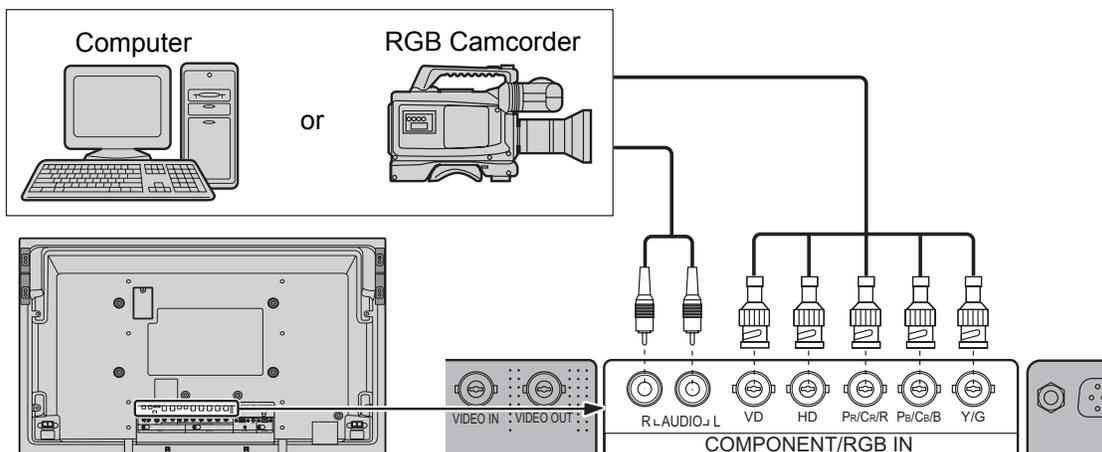
AV & COMPONENT connection



Notes:

- Change the "COMPONENT/RGB-IN SELECT" setting in the "SET UP" menu to "COMPONENT". (see page 29)
- Additional equipment, cables and adapter plugs shown are not supplied with this set.

RGB signal (R, G, B, HD, VD)



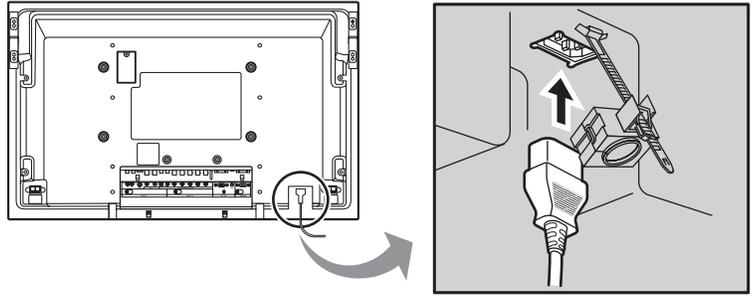
Notes:

- Change the "COMPONENT/RGB-IN SELECT" setting in the "SET UP" menu to "RGB". (see page 29)
- Additional equipment, cables and adapter plugs shown are not supplied with this set.

Power ON / OFF

Connecting the AC cord plug to the LCD Display.

Fix the AC cord plug securely to the LCD Display with the clamper. (see page 9)

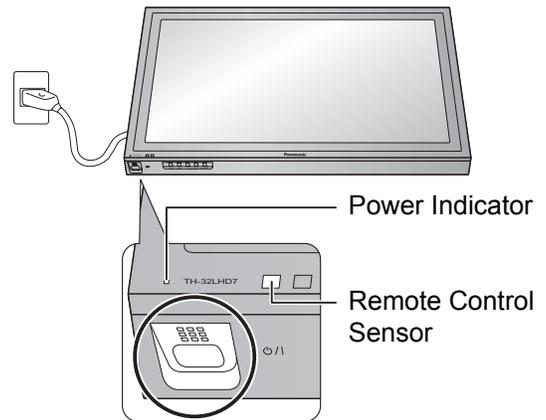


Connecting the plug to the Wall Outlet

Press the Power switch on the LCD Display to turn the set on: Power-On.

Power Indicator: Green

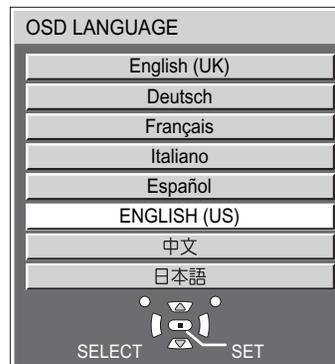
Example: The screen below is displayed for a while after the LCD Display is turned on. (setting condition is an example.)



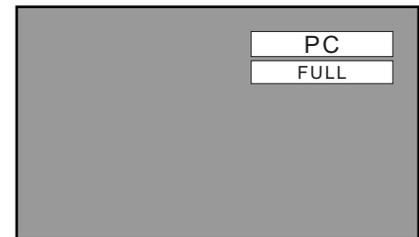
When the POWER is turned on for the first time, the LANGUAGE selection screen is displayed.

From the second time on, language selection can be done from the setup menu. (see page 18)

Select the desired language using the ▲ or ▼ button and press the ACTION (■) button.



From the second time on, the screen shown below is displayed for a while (setting condition is an example).



Press the  button on the remote control to turn the LCD Display off.

Power Indicator: Red (standby)

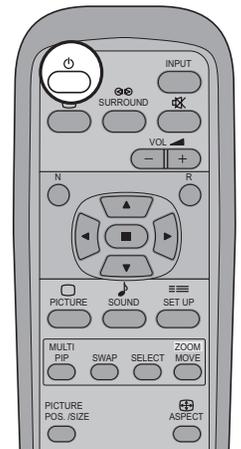
Press the  button on the remote control to turn the LCD Display on.

Power Indicator: Green

Turn the power to the LCD Display off by pressing the /| switch on the unit, when the LCD Display is on or in standby mode.

Note:

During operation of the power management function, the power indicator turns orange in the power off state.

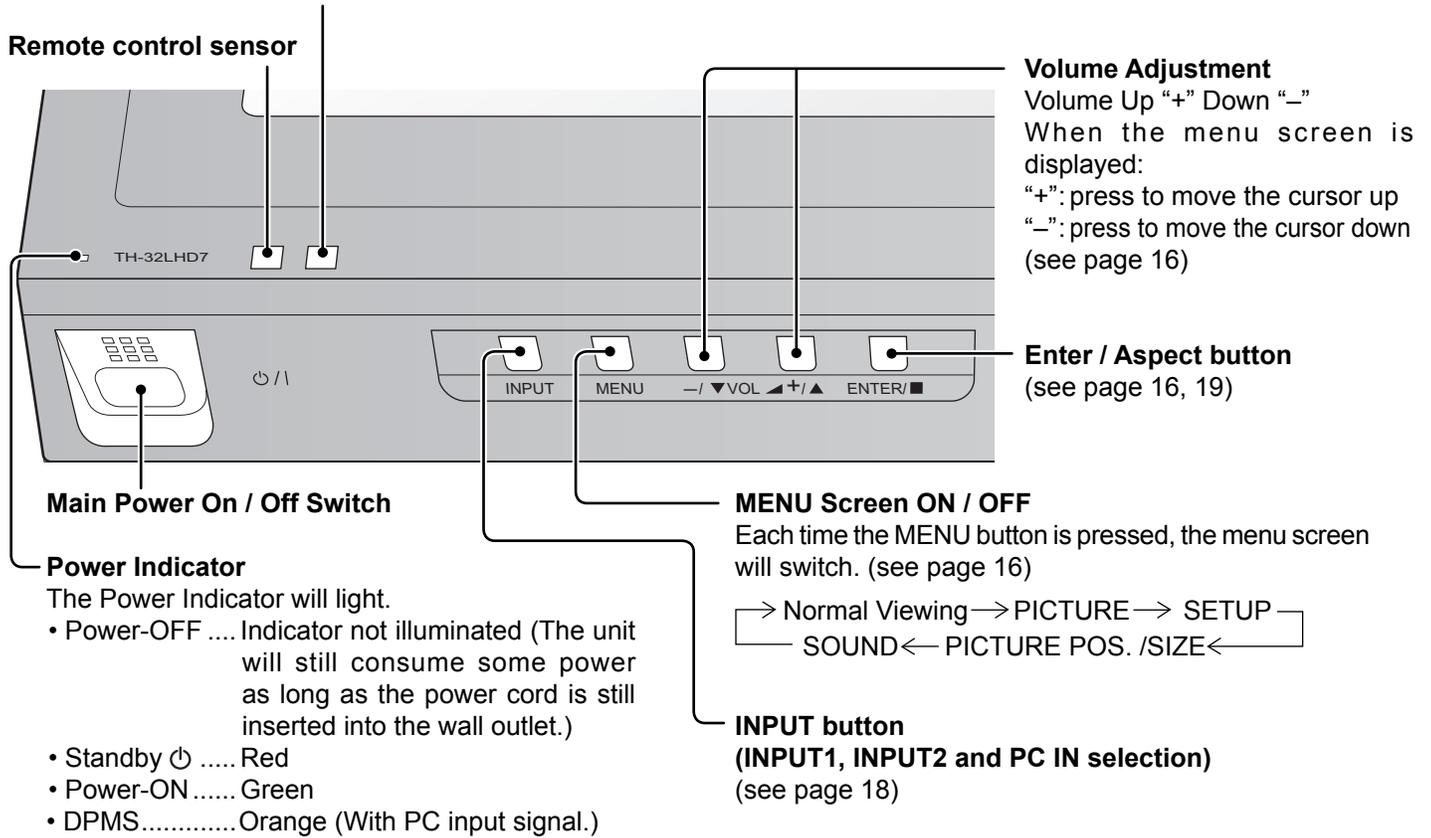


Basic Controls

C.A.T.S. sensor

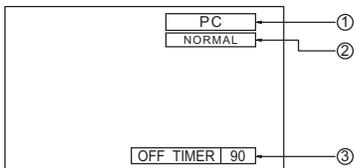
C.A.T.S. (Contrast Automatic Tracking System)

C.A.T.S. automatically senses the ambient light conditions and adjusts the brightness and gradation accordingly, to optimise contrast. (Effective when PICTURE MENU is set to AUTO.)



Status button

Press the “Status” button to display the current system status.



- ① Input label
- ② Aspect mode (see page 19)
- ③ Off timer

The off timer indicator is displayed only when the off timer has been set.

N button (see page 20, 22, 23, 24)

PICTURE button (see page 22)

MULTI Window buttons (see page 21)

PC button

Press the “PC” input mode selection button to select the PC input mode.

This button is used to switch directly to PC input mode.

Standby (ON / OFF) button

The LCD Display must first be plugged into the wall outlet and turned on at the power switch (see page 13). Press this button to turn the LCD Display On, from Stanby mode. Press it again to turn the LCD Display Off to Stanby mode.

SURROUND button

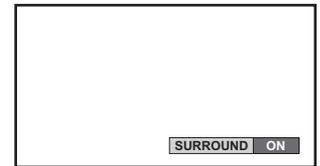
The surround setting switches on and off each time the SURROUND button is pressed.

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

Note:

The surround settings are memorized separately for each AUDIO MENU (STANDARD, AUTO).

ON ← → OFF



INPUT button (INPUT1, INPUT2 and PC IN selection)

Press to select INPUT1, INPUT2 and PC IN input SLOTS sequentially. (see page 18)

Sound mute On / Off (see page 24)

Volume Adjustment

Press the Volume Up "+" or Down "-" button to increase or decrease the sound volume level.

R button (see page 17)

Press the R button to return to previous menu screen.

ACTION button

Press to make selections.

POSITION buttons

SOUND button (see page 24)

SET UP button (see page 16, 17)

PICTURE POS. / SIZE button (see page 20)

ASPECT button

Press to adjust the aspect. (see page 19)

OFF TIMER button

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



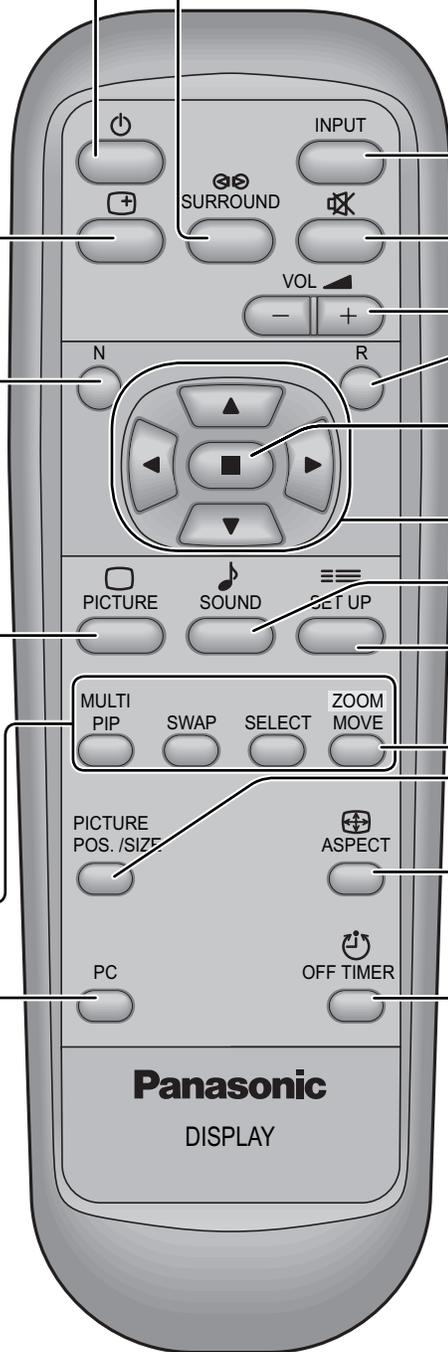
When three minutes remain, "OFF TIMER 3" will flash. The off timer is cancelled if a power interruption occurs.

Digital Zoom (see page 25)



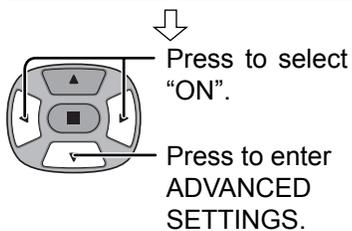
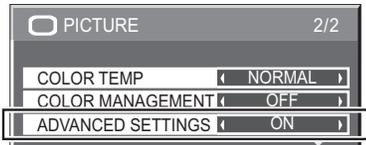
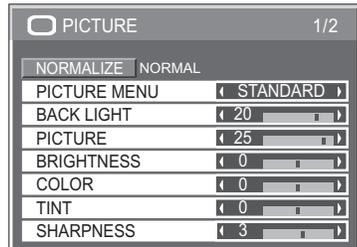
Press to access Digital Zoom.

This displays an enlargement of the designated part of the displayed image.

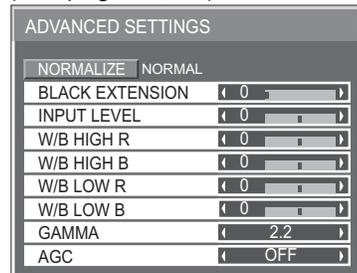


On-Screen Menu Displays

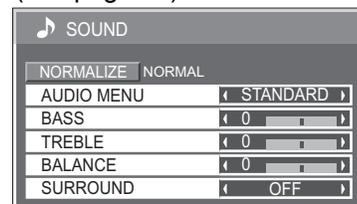
To PICTURE adjust menu (see page 22)



To ADVANCED SETTINGS (see page 22, 23)

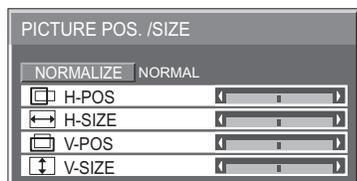


To SOUND adjust menu (see page 24)



To PICTURE POS./SIZE adjust menu (see page 20)

During "VIDEO (S VIDEO)", "COMPONENT" and "DVI" input signal.

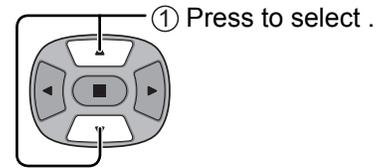
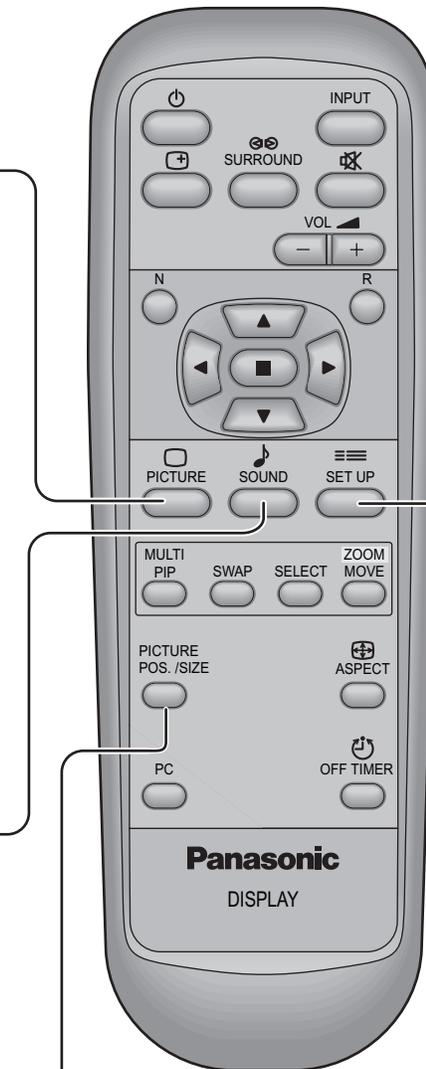


The MENU button on the unit can also be pressed.

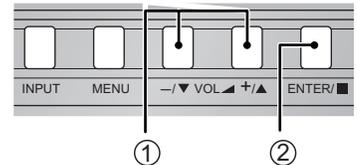


Each time the MENU button is pressed, the menu screen will switch.

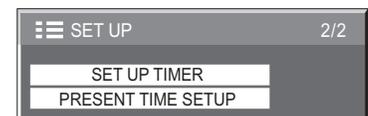
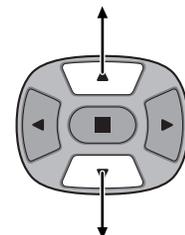
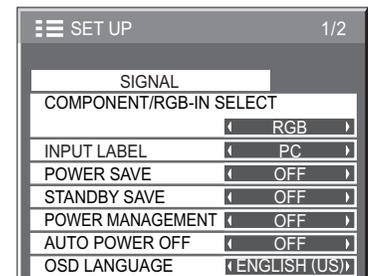
→ Normal Viewing → PICTURE → SETUP
← SOUND ← PICTURE POS./SIZE ←



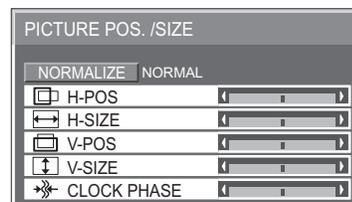
[from the unit]

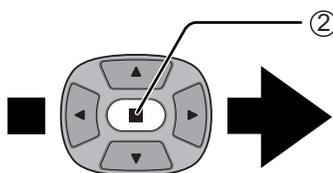


- ① Press to select.
- ② Press to access each adjust screen.



During "RGB/PC" input signal.





② Press to access each adjust screen.

[from the unit]

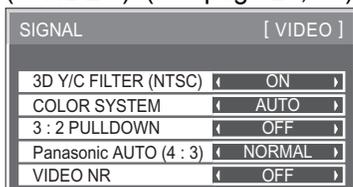


Press to return to next menu screen.

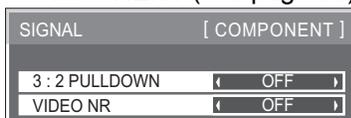


Press the R button to return to previous menu.

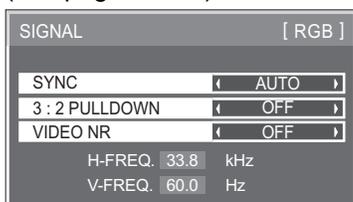
To SIGNAL screen for VIDEO (S VIDEO) (see page 29, 30)



To SIGNAL screen for COMPONENT (see page 30)



To SIGNAL screen for RGB (see page 30, 31)

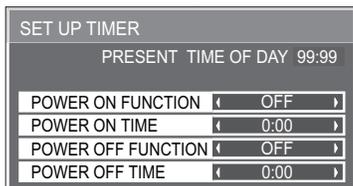


To SIGNAL screen for DVI (see page 30, 31)

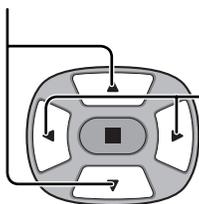


Note: "SIGNAL" setup menu displays a different setting condition for each input signal. (see page 18)

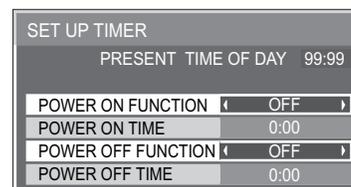
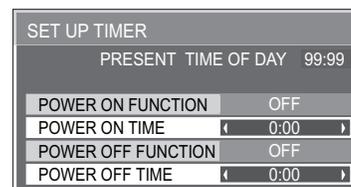
To SET UP TIMER selection screen. (see page 26, 27)



Press to select POWER ON TIME / POWER OFF TIME.

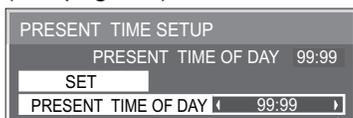


Press to set up POWER ON TIME / POWER OFF TIME.



Press the R button to return to "SET UP" menu.

To PRESENT TIME SETUP. (see page 26)



Initial selections

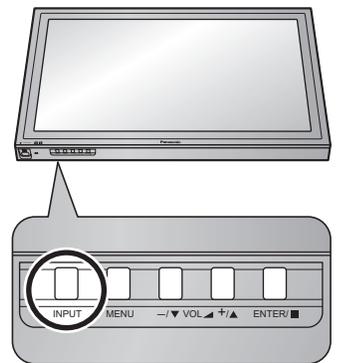
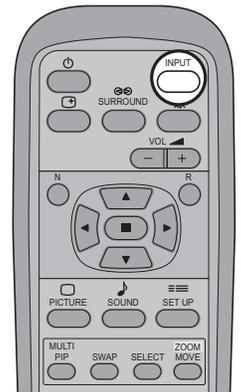
Selecting the input signal

Select the input signals to be connected by installing the optional Terminal Boards.



Press to select the input signal to be played back from the equipment which has been connected to the LCD Display.

Input signals will change as follows:



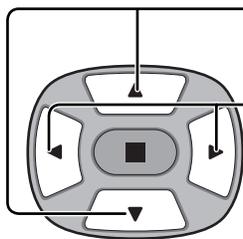
Notes:

- Selecting is also possible by pressing the INPUT button on the unit.
- Input terminal will not be selected if the terminal board is not installed into the SLOT.
- Select to match the signals from the source connected to the component/RGB input terminals. (see page 29)
- In 2 screen display, the same input mode cannot be selected for the main picture and sub picture.

Selecting the On-Screen Menu Language

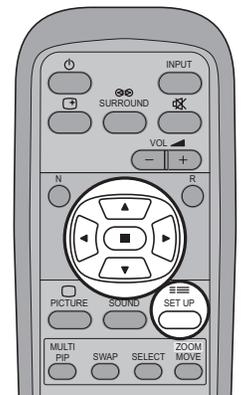


Press to display the SET UP menu.



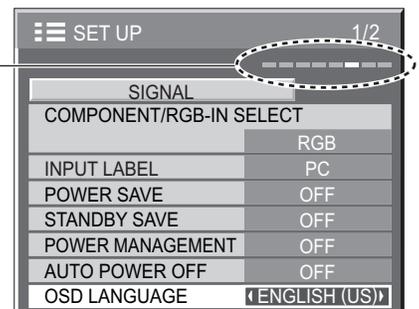
Press to select OSD LANGUAGE.

Press to select your preferred language.



Selectable languages

- English(UK)
- Deutsch
- Français
- Italiano
- Español
- ENGLISH(US)
- 中文.....(Chinese)
- 日本語.....(Japanese)



ASPECT Controls

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



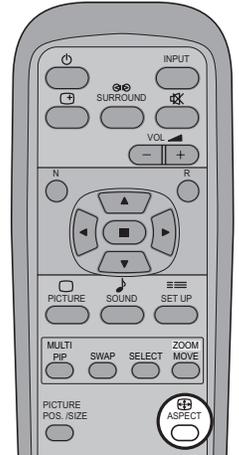
Press repeatedly to move through the aspect options:



[from the unit]



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



[During MULTI PIP Operations]

• Picture and Picture, Picture in Picture :

• Others : Aspect switching is not possible.

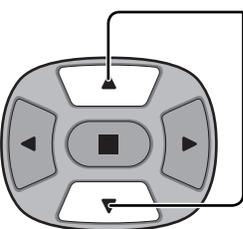
Notes:

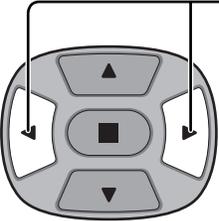
- For PC signal input, the mode switches between "NORMAL", "ZOOM" and "FULL" only.
- For a 1125 (1080) / 60i · 50i · 24p · 25p · 30p · 24sF, 1250 (1080) / 50i, 750 (720) / 60p · 50p signal input during "COMPONENT", "RGB" and "DVI" input signal, the mode is set to "FULL" mode, and switching is not possible.
- Panasonic AUTO can be selected only during Video signal input.
- The aspect mode is memorized separately for each input terminal (INPUT1, INPUT2 and PC IN).

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 slight elongation.
JUST		JUST mode will display a 4:3 picture at its maximum size but with aspect correction applied to the center of the screen so that elongation is only apparent at the left and right edges of the screen. The size of the picture will depend on the original signal.
Panasonic AUTO	<p>For an elongated image </p> <p>Image is expanded</p> <p>Changes in accordance with the Panasonic AUTO mode setting (see page 30).</p> <p>For a 4:3 image </p> <p>Image is expanded</p> <p>Changes in accordance with the Panasonic AUTO mode setting (see page 30).</p>	<p>The display will automatically become enlarged (depending on the picture source), allowing you to view the picture at its maximum size.</p> <p>Notes:</p> <ul style="list-style-type: none"> • Panasonic AUTO mode is designed to automatically adjust the aspect ratio to handle a mix of 16:9 and 4:3 program material. Certain 4:3 program material, such as stock market data screens, may occasionally cause the image size to change unexpectedly. When viewing such programs, it is recommended that the ASPECT be set to NORMAL. • If adjusting the PICTURE V-POS/V-SIZE in Panasonic AUTO with FULL mode, the adjustment is not memorized. When exiting the mode, the screen will return to a former adjustment.

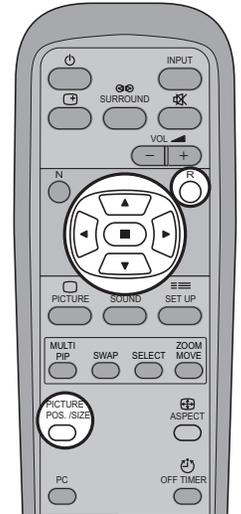
Adjusting PICTURE POSITION / SIZE

1  Press to display the PICTURE POS. /SIZE menu.

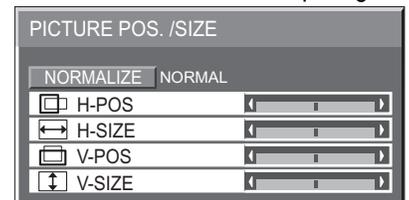
2  Press to select H-POS / H-SIZE / V-POS / V-SIZE / CLOCK PHASE.

3  Press to adjust POS. / SIZE.

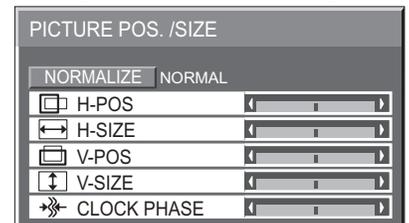
4  Press to exit from adjust mode.



During "VIDEO (S VIDEO)", "COMPONENT" and "DVI" input signal.



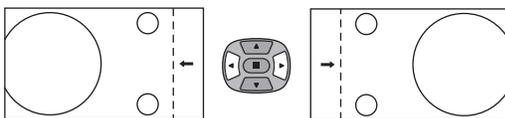
During "RGB / PC" input signal.



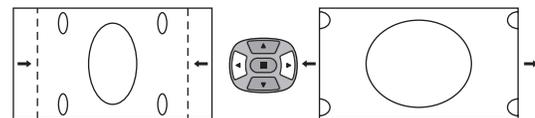
Notes:

- Adjustment details are memorized separately for different input signal formats (Adjustments for component signals are memorized for 525 (480) / 60i · 60p, 625 (575) / 50i · 50p, 1125 (1080) / 60i · 50i · 24p · 25p · 30p · 24sF, 1250 (1080) / 50i, 750 (720) / 60p · 50p each, and RGB/PC/DVI signals are memorized for each frequency.)
- If a "Cue" or "Rew" signal from a VCR or DVD player is received, the picture position will shift up or down. This picture position movement cannot be controlled by the PICTURE POS. / SIZE function.
- If adjusting the PICTURE V-POS / V-SIZE in Panasonic AUTO with FULL mode, the adjustment is not memorized. When exiting the mode, the screen will return to a former adjustment.

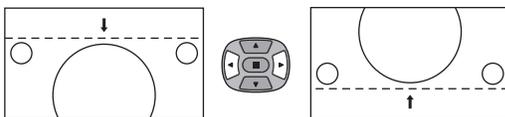
H-POS Adjust the horizontal position.



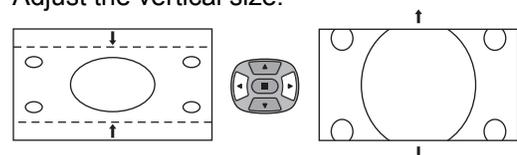
H-SIZE Adjust the horizontal size.



V-POS Adjust the vertical position.



V-SIZE Adjust the vertical size.



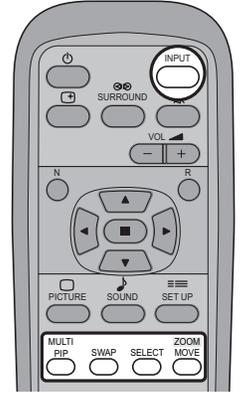
CLOCK PHASE
(RGB/PC in mode)

Eliminate the flickering and distortion.

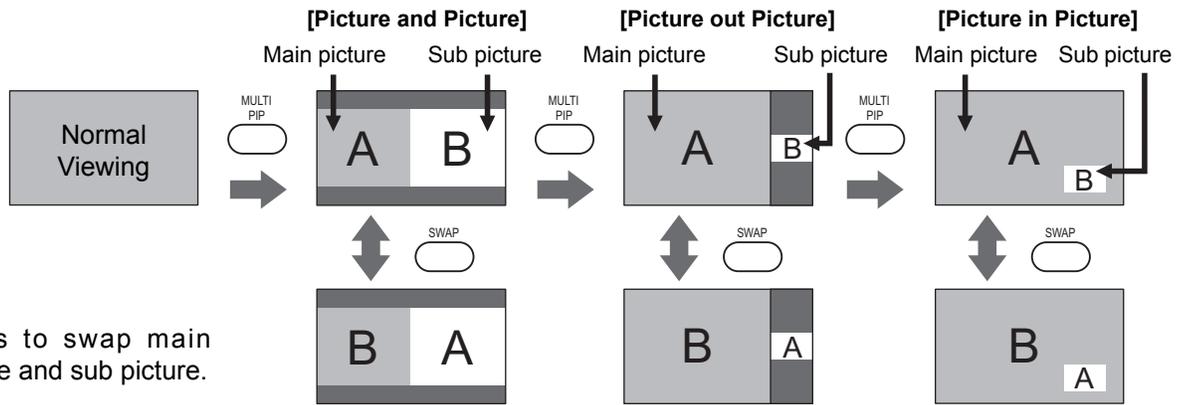
Helpful Hint (/ **NORMALIZE** Normalization)

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

MULTI PIP



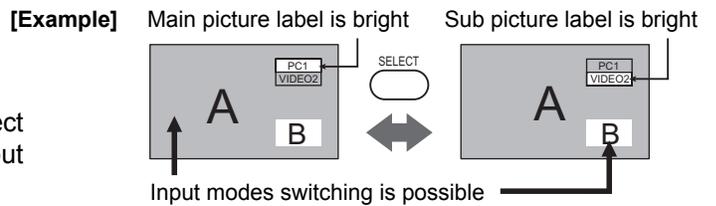
Press repeatedly.
Each time pressing this button main picture and sub picture will be displayed as follows below.



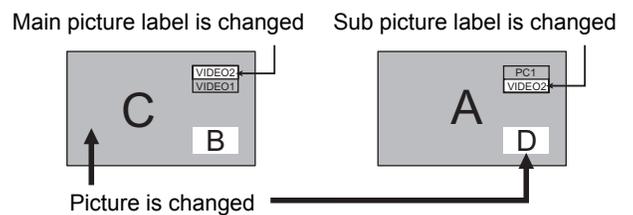
Press to swap main picture and sub picture.



Press to select the input mode.
Under main Picture and sub picture display, select the picture which you would like to change input modes.



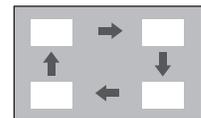
Press to change input signal.



Press to move the sub picture.
Each time the location of the sub picture will be moved.

Notes:

- This button is effective only in the picture in picture.
- The sub picture may be hidden by the on screen display, depending on its position.



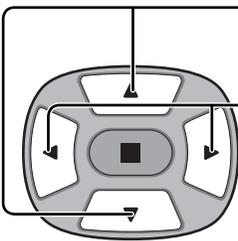
Notes:

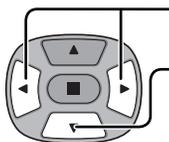
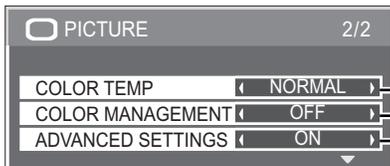
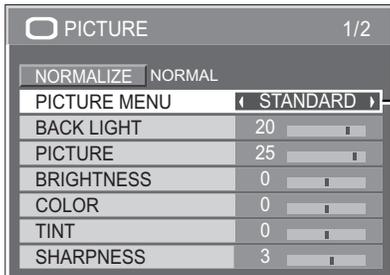
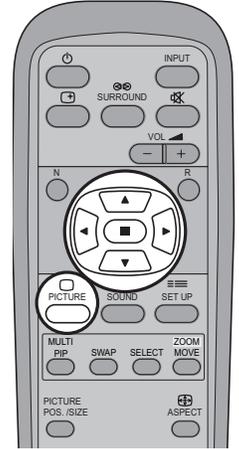
- Sound output is from the main picture.
- In 2 screen display, the same input mode cannot be selected for the main picture and sub picture.
- The main picture and sub picture are processed by different circuits, resulting in a slight difference in the clarity of the pictures. There may also be a difference in the picture quality of the sub picture depending on the type of signals displayed on the main picture and depending on the 2-picture display mode.
- Due to the small dimensions of the sub pictures used for the picture in picture and picture out picture displays, these sub pictures cannot be shown in detail.
- Two computer screen pictures are displayed in a simplified format, and it may not be possible to discern details on them satisfactorily.

PICTURE Adjustments

1  Press to display the PICTURE menu.

2 Select to adjust each item.

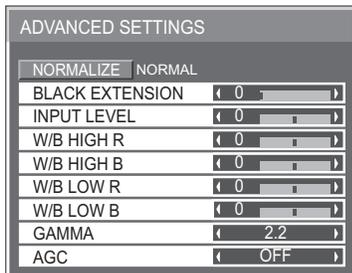
 Press to select the menu to adjust.
 Select the desired level by looking at the picture behind the menu.



Press to select "ON".

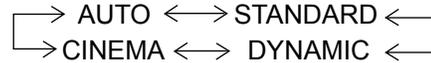
Press to enter Advanced Settings.

ADVANCED SETTINGS ON
 Enables fine picture adjustment at a professional level (see next page).



ADVANCED SETTINGS OFF
 Displays images with settings of the PICTURE menu.

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



AUTO

Automatically selects the mode that best suits the brightness of the environment.

STANDARD

For viewing in standard (evening lighting) environments. This menu selects the normal levels of BRIGHTNESS and PICTURE.

DYNAMIC

For viewing in brighter environments. This menu selects higher than normal levels of BRIGHTNESS and PICTURE.

CINEMA

Ideal for movies.

Note:

If you would like to change the picture and color of the selected PICTURE menu to something else, adjust using the items in the PICTURE menu. (see next page)

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



COLOR MANAGEMENT ON

Enables vivid color adjustment automatically.

Helpful Hint ( / NORMALIZE Normalization)

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

Item	Effect	Adjustments
BACK LIGHT	Darker Brighter	Luminance of the back light is adjusted.
PICTURE	Less More	Adjusts the proper picture contrast.
BRIGHTNESS	Darker Brighter	Adjusts for easier viewing of dark pictures such as night scenes and black hair.
COLOR	Less More	Adjusts color saturation.
TINT	Reddish Greenish	Adjusts for natural flesh tones.
SHARPNESS	Less More	Adjusts picture sharpness.

Notes:

- “COLOR” and “TINT” settings cannot be adjusted for “RGB/PC” and “DVI” input signal.
- You can change the level of each function (BACK LIGHT, PICTURE, BRIGHTNESS, COLOR, TINT, SHARPNESS) for each PICTURE MENU.
- The setting details for STANDARD, DYNAMIC and CINEMA respectively are memorized separately for each input mode (INPUT1, INPUT2 and PC IN).
- The “TINT” setting can be adjusted for NTSC signal only during “VIDEO (S VIDEO)” input signal.

ADVANCED SETTINGS

Item	Effect	Details
BLACK EXTENSION	Less More	Adjusts the dark shades of the image in gradation.
INPUT LEVEL	Less More	Adjustment of parts which are extremely bright and hard to see. (This cannot be adjusted when the input signal is DVI.)
W/B HIGH R	Less More	Adjusts the white balance for light red areas.
W/B HIGH B	Less More	Adjusts the white balance for light blue areas.
W/B LOW R	Less More	Adjusts the white balance for dark red areas.
W/B LOW B	Less More	Adjusts the white balance for dark blue areas.
GAMMA	Down Up	S CURVE \longleftrightarrow 2.0 \longleftrightarrow 2.2 \longleftrightarrow 2.5
AGC	OFF ON	Increases the brightness of dark signal automatically.

Notes:

- Carry out “W/B” adjustment as follows.
 1. Adjust the white balance of the bright sections using the “W/B HIGH R” and “W/B HIGH B” settings.
 2. Adjust the white balance of the dark sections using the “W/B LOW R” and “W/B LOW B” settings.
 3. Repeat steps 1 and 2 to adjust.
 Steps 1 and 2 affect each other’s settings, so repeat each step in turn to make the adjustment.
- The adjustment values are memorized separately for each input mode (INPUT1, INPUT2 and PC IN).
- The adjustment range values should be used as an adjustment reference.

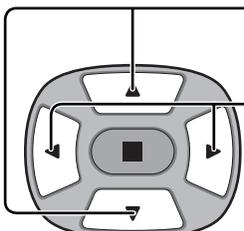
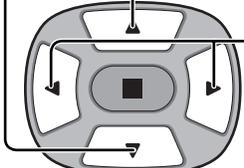
Helpful Hint (/ **NORMALIZE Normalization**)

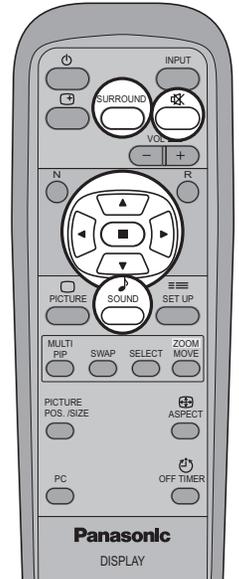
On the remote control unit, while the “ADVANCED SETTINGS” menu is displayed, if either the N button is pressed at any time or the ACTION () button is pressed during “NORMALIZE”, then all adjustment values are returned to the factory settings.

SOUND Adjustment

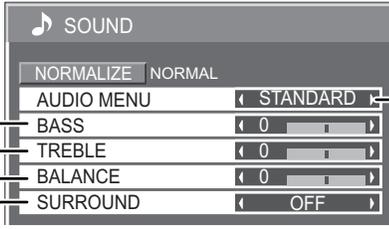
1  Press to display the SOUND menu.

2 Select to adjust each item.

 Press to select the menu to adjust.
 Select the desired level by listening to the sound.



BASS — Adjusts low sounds
TREBLE — Adjusts high sounds
BALANCE — Adjusts left and right volumes
SURROUND — Select ON or OFF



STANDARD — Emits the original sound.
AUTO — Automatically controls proper volume level.

↑ ↓

Notes:

- Press the SURROUND button to directly turn the surround effect ON and OFF. (see page 15)
- BASS, TREBLE and SURROUND settings are memorized separately for each AUDIO MENU (STANDARD, AUTO).

Helpful Hint (/ **NORMALIZE Normalization**)

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

MUTE

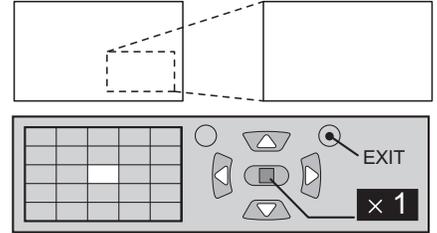
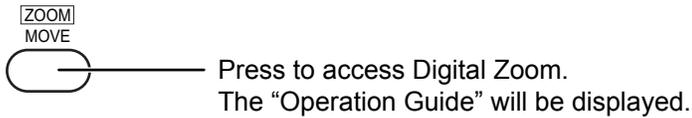
Useful when answering the phone or receiving unexpected visitors.

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

Digital Zoom

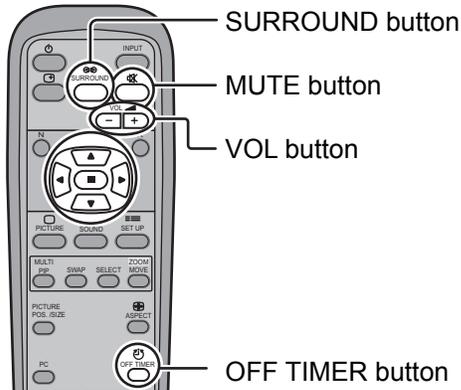
This displays an enlargement of the designated part of the displayed image.

1 Display the "Operation Guide".

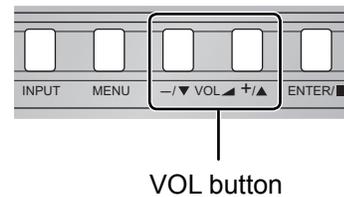


During Digital Zoom, only the following buttons can be operated.

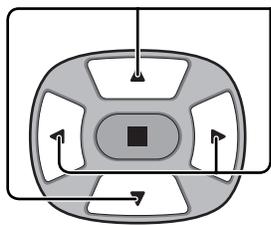
[Remote control]



[Unit]

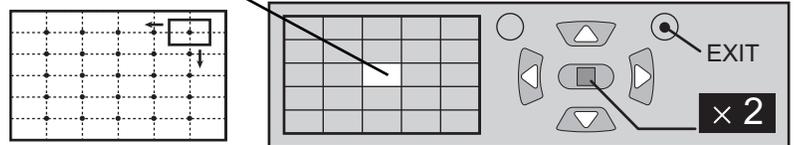


2 Select the area of the image to be enlarged.

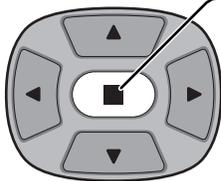


Press on the enlargement location to select.

The cursor will move.



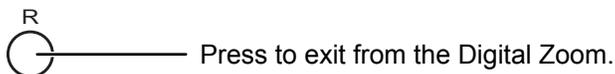
3 Select the magnification required for the enlarged display.



Each time this is pressed, the magnification factor changes.
This is shown in the image being displayed.



4 Return to normal display (quit Digital Zoom).



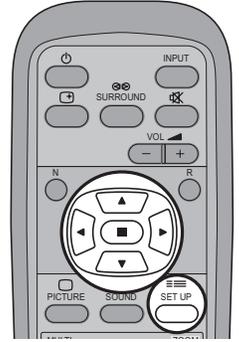
Notes:

- When power goes OFF (including "Off Timer" operation), Digital Zoom terminates.
- The Digital Zoom function cannot be selected while in the following operation state:
"Multi-viewer" (Picture in Picture, Picture out Picture, Picture and Picture) operation. (see page 21)
- While Digital Zoom is in operation, "Adjusting PICTURE POSITION/SIZE" cannot be used.
- The Digital Zoom capability is functional for the following component signals:
525 (480) / 60i · 60p, 625 (575) / 50i · 50p, 1125 (1080) / 60i · 50i · 24p · 25p · 30p · 24sF, 750 (720) / 60p · 50p, 1250 (1080) / 50i
- The Digital Zoom capability is functional for the following composite signals:
NTSC, PAL, SECAM

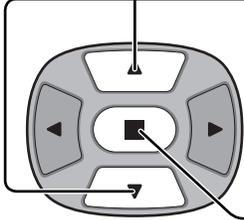
PRESENT TIME SETUP / SET UP TIMER

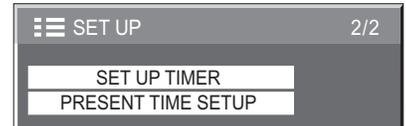
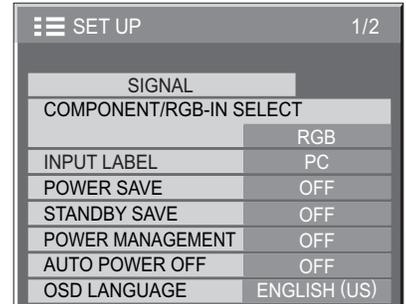
The timer can switch the LCD Display ON or OFF.

Before attempting Timer Set, confirm the PRESENT TIME OF DAY and adjust if necessary. Then set POWER ON TIME / POWER OFF TIME.



1  Press to display the SET UP menu.

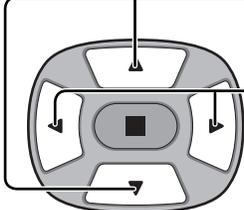
2  Press to select SET UP TIMER or PRESENT TIME SETUP.
Press to display the SET UP TIMER screen or PRESENT TIME SETUP screen.

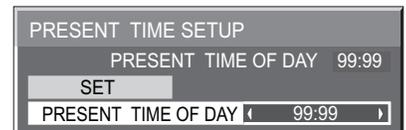


PRESENT TIME SETUP

Display the PRESENT TIME SETUP screen.

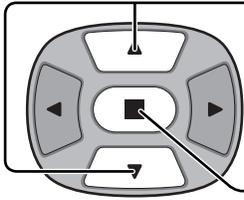
To set up PRESENT TIME OF DAY, follow the procedure described below.

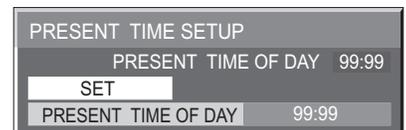
1  Press to select PRESENT TIME OF DAY.
Press to set up PRESENT TIME OF DAY.
▶ button: Forward
◀ button: Back



Notes:

- Pressing “◀” or “▶” button once changes PRESENT TIME OF DAY 1minute.
- Pressing “◀” or “▶” button continuously changes PRESENT TIME OF DAY by 15 minutes.

2  Press to select Set.
Press to store PRESENT TIME SETUP.



Note:

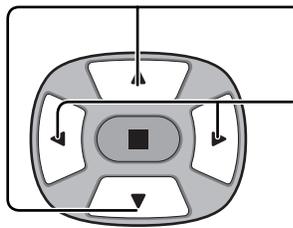
Set cannot be selected unless PRESENT TIME OF DAY is set.

3  Press to exit from PRESENT TIME SETUP.

SET UP TIMER

Display the SET UP TIMER SCREEN.

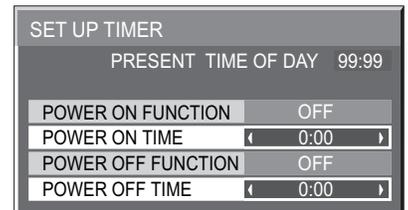
1



Press to select
POWER ON TIME / POWER OFF TIME.

Press to set up POWER ON TIME / POWER OFF
TIME.

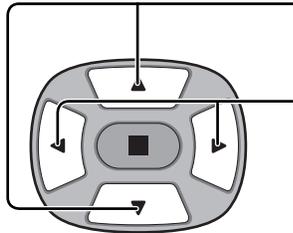
- ▶ button: Forward
- ◀ button: Back



Notes:

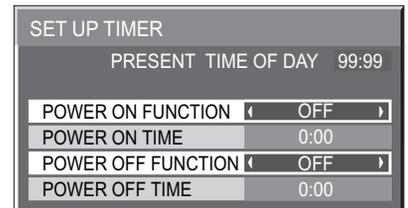
- Pressing “◀” or “▶” button once changes POWER ON TIME / POWER OFF TIME 1minute.
- Pressing “◀” or “▶” button continuously changes POWER ON TIME / POWER OFF TIME by 15 minutes.

2



Press to select POWER ON FUNCTION
/ POWER OFF FUNCTION.

Press to select ON.



3



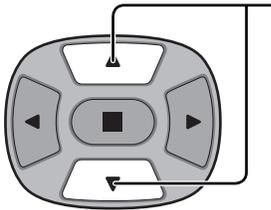
Press twice to exit from SET UP.

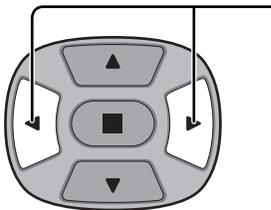
Note:

Timer function will not work unless “PRESENT TIME OF DAY” is set.

Reduces power consumption

- **POWER SAVE:** When this function is turned ON, luminous level of the LCD Display is suppressed, so power consumption is reduced.
- **STANDBY SAVE:** When this function is turned ON, power consumption of the microcomputer is reduced during power supply standby (see page 13-15), so standby power of the set is reduced.
- **POWER MANAGEMENT:** The unit power supply is turned ON or OFF depending on whether or not there is a signal during PC input mode. This function is enabled when it is turned ON. (Only during input from PC(Mini D-sub) terminal)
- **AUTO POWER OFF:** Equipment power supply is turned OFF when there is no signal. When this is set to On, the power supply of the unit goes Off 10 minutes after the input signals stop. This function is effective for input signals except input from PC (Mini D-sub) terminal.

- 

Press to select
"POWER SAVE"
"STANDBY SAVE"
"POWER MANAGEMENT"
"AUTO POWER OFF".
- 

Press to select "ON" or "OFF".
On ← → Off
- 

Press to exit from SET UP.

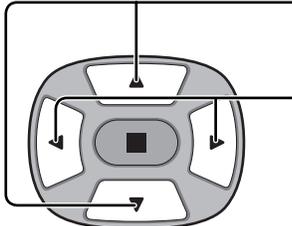
SET UP 1/2	
SIGNAL	
COMPONENT/RGB-IN SELECT	
	RGB
INPUT LABEL	PC
POWER SAVE	OFF
STANDBY SAVE	OFF
POWER MANAGEMENT	OFF
AUTO POWER OFF	OFF
OSD LANGUAGE	ENGLISH (US)

Note:

"POWER MANAGEMENT" and "AUTO POWER OFF" are effective during normal viewing (one picture screen) only.

Customizing the Input labels

This function can change the label of the Input signal to be displayed.

- 
- Press to select INPUT LABEL.
 - Press to change the INPUT LABEL.

SET UP 1/2	
SIGNAL	
COMPONENT/RGB-IN SELECT	
	RGB
INPUT LABEL	PC
POWER SAVE	OFF
STANDBY SAVE	OFF
POWER MANAGEMENT	OFF
AUTO POWER OFF	OFF
OSD LANGUAGE	ENGLISH (US)

Note:

While selecting a Input signal through Optional Terminal Board connected to Slot 1 and Slot 2, the Input label will depend on each Optional Terminal Board.

INPUT LABELS for Slot 1, Slot 2 and miniD-sub:

- [Slot1 Input] INPUT1/VIDEO1/COMPONENT1/RGB1/DIGITAL1/PC1/DVD1/CATV1/VCR1/STB1
- [Slot2 Input] INPUT2/VIDEO2/COMPONENT2/RGB2/DIGITAL2/PC2/DVD2/CATV2/VCR2/STB2
- [PC (MiniD-sub) input] PC/COMPONENT/RGB/DVD/STB

SET UP for Input Signals

COMPONENT / RGB IN SELECT

Select to match the signals from the source connected to the COMPONENT / RGB input terminals.

Y, P_B, P_R signals ⇒ "COMPONENT"

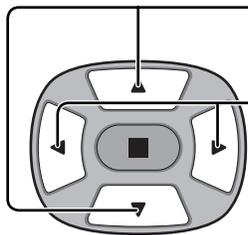
R, G, B, HD, VD signals ⇒ "RGB"

1



Press to display the SET UP menu.

2



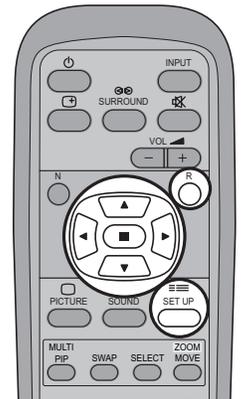
Press to select the "COMPONENT / RGB-IN SELECT".

Press to select the desired mode.
COMPONENT ← → RGB

3



Press to exit from adjust mode.



SET UP 1/2	
SIGNAL	
COMPONENT/RGB-IN SELECT	
	RGB
INPUT LABEL	PC
POWER SAVE	OFF
STANDBY SAVE	OFF
POWER MANAGEMENT	OFF
AUTO POWER OFF	OFF
OSD LANGUAGE	ENGLISH (US)

Note:

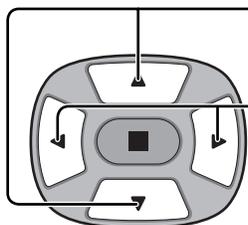
Selection may not be possible, depending on which optional board is installed.

3D Y/C FILTER – For NTSC AV images

Select "SIGNAL" from the "SET UP" menu during VIDEO (S VIDEO) input signal mode.

("SIGNAL [VIDEO]" menu is displayed.)

1



Press to select the "3D Y/C FILTER (NTSC)".

Press to set ON / OFF.

2



Press to exit from adjust mode.

SET UP 1/2	
SIGNAL	
COMPONENT/RGB-IN SELECT	
	RGB
INPUT LABEL	PC
POWER SAVE	OFF
STANDBY SAVE	OFF
POWER MANAGEMENT	OFF
AUTO POWER OFF	OFF
OSD LANGUAGE	ENGLISH (US)

↓ Press ACTION (■) button

SIGNAL [VIDEO]	
3D Y/C FILTER (NTSC)	
	ON
COLOR SYSTEM	AUTO
3 : 2 PULLDOWN	OFF
Panasonic AUTO (4 : 3)	NORMAL
VIDEO NR	OFF

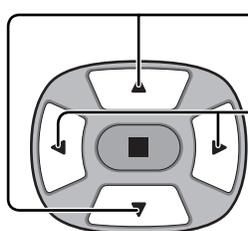
Note:

When ON, this setting only affects NTSC input signals.

SET UP for Input Signals

COLOR SYSTEM / Panasonic AUTO

Select SIGNAL from the “SET UP” menu during VIDEO (S VIDEO) input signal mode. (“SIGNAL [VIDEO]” menu is displayed.)

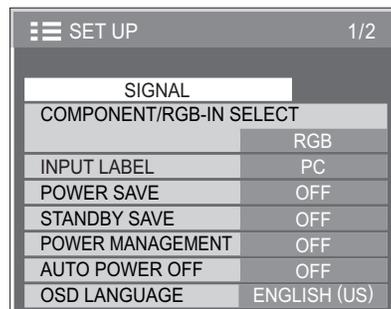


Press to select the “COLOR SYSTEM” or “Panasonic AUTO”.

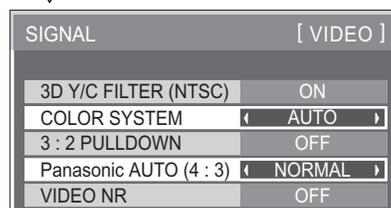
Press to select each function.

If the image becomes unstable:

With the system set on Auto, under conditions of low level or noisy input signals the image may in rare cases become unstable. Should this occur, set the system to match the format of the input signal.



Press ACTION (■) button



Mode	Function
COLOR SYSTEM	Set the color system to match the input signal. If set to “AUTO”, the color system is determined automatically. <div style="border: 1px solid black; padding: 5px; display: inline-block;"> > AUTO <-> PAL <-> SECAM <-> M.NTSC <-> NTSC <- </div>
Panasonic AUTO (4:3)	Set to “NORMAL” to view 4:3 images in an unchanged format when Panasonic AUTO is selected. If you would like to view 4:3 images in Just format, set to “JUST”.

3:2 PULLDOWN / VIDEO NR

3:2 PULLDOWN: When ON, the display attempts to reproduce a more natural interpretation of sources such as movie pictures, which are recorded at 24 frames per second. If the picture is not stable, turn the setting to OFF.

Note:

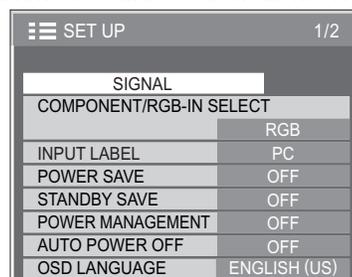
When ON, this setting only affects the following signal input:

- NTSC / PAL signal input during “VIDEO (S VIDEO)” input signal.
- 525i(480i) 625i(575i), 1125(1080)/60i signal input during “COMPONENT” input signal.

VIDEO NR: Automatically reduces unwanted picture noise.

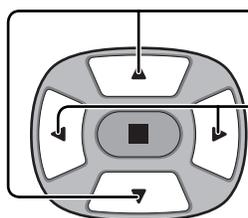
Note:

VIDEO NR cannot be adjusted while a PC signal is being applied.

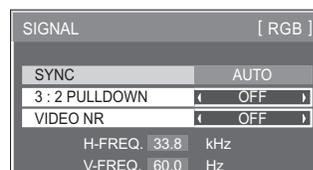
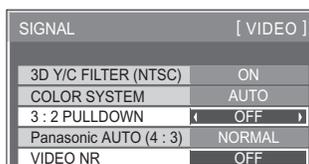


Press ACTION (■) button

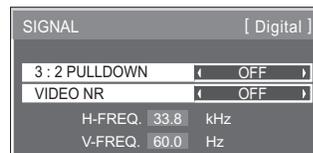
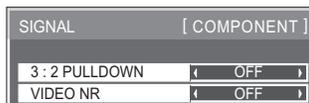
1 Press to select 3:2 PULLDOWN or VIDEO NR.



Press to set ON/OFF.

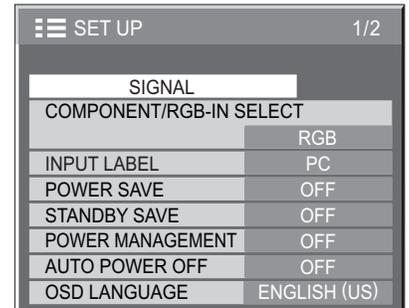
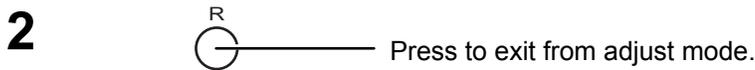
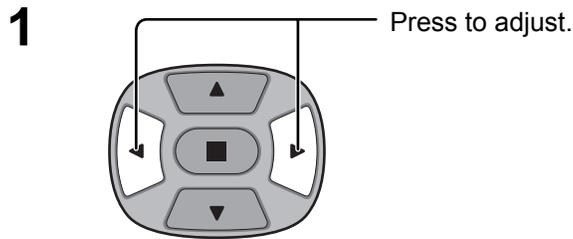


2 Press to exit from adjust mode.

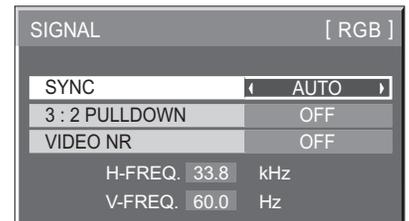


SYNC

Select SIGNAL from the "SET UP" menu during RGB input signal.



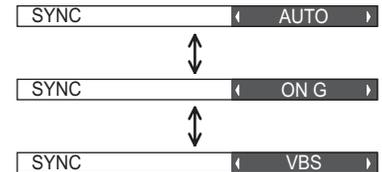
↓ Press ACTION (■) button



Setting RGB sync signal

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

- AUTO: The H and V sync or synchronized signal are automatically selected. If both input, it is selected the H and V sync.
- ON G: Uses a synchronized signal on the Video G signal, which is input from the G connector.
- VBS: Uses a synchronized signal of Composite Sync input, which is input from the HD connector.



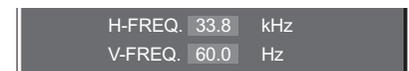
H-FREQ. (kHz) / V-FREQ. (Hz)

Displays the H (Horizontal) / V (Vertical) frequencies.

This display is valid only for RGB/PC and DVI input signal.

Display range:

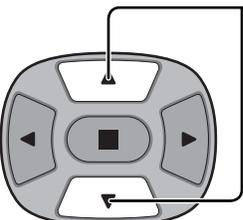
- Horizontal 15 - 110 kHz
- Vertical 48 - 120 Hz

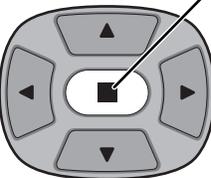


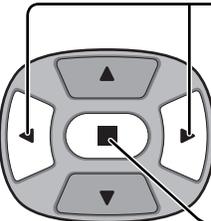
Shipping condition

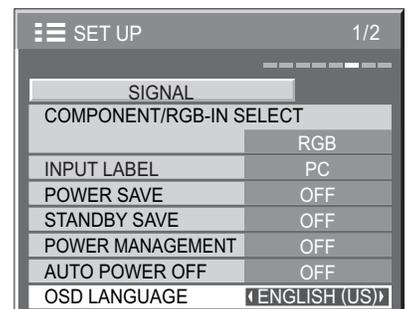
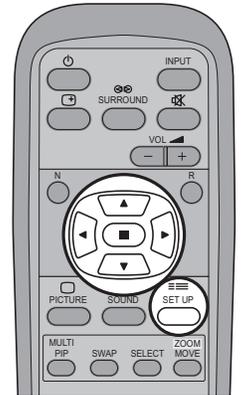
This function allows you to reset the unit to the factory setting.

1  Press to display the SET UP menu.

2  Press to select "OSD LANGUAGE".

3  Press and hold till the SHIPPING menu is displayed.

4  Press to select "YES".
 Press to confirm.



[from the unit]

- 1 Press the MENU button till the Setup menu is displayed.
- 2 Press the Volume Up "+" or Down "-" button to select "OSD LANGUAGE".
- 3 Press and hold the ENTER button till the SHIPPING menu is displayed.
- 4 Press the Volume Up "+" or Down "-" button to select "YES".
- 5 Press the ENTER button.

Note:

Press the R button to return to SET UP menu when SHIPPING menu is displayed.

Troubleshooting

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

Symptoms		Checks
Picture	Sound	
 Interference	 Noisy Sound	Electrical Appliances Cars / Motorcycles Fluorescent light
 Normal Picture	 No Sound	Volume (Check whether the mute function has been activated on the remote control.)
 No Picture	 No Sound	Not plugged into AC outlet Not switched on PICTURE and BRIGHTNESS/Volume setting (Check by pressing the power switch or stand-by button on the remote control.)
 No Picture	 Normal Sound	If a signal with a non-applicable color system format, or frequency is input, only the input terminal indication is displayed.
 No Color	 Normal Sound	Color controls set at minimum level. (see page 22, 23) COLOR SYSTEM (see page 30)
There may be red spots, blue spots and green spots on the screen.	 Normal Sound	This is a characteristic of liquid crystal panels and is not a problem. The liquid crystal panel is built with very high precision technology giving you fine picture details. Occasionally, a few non-active pixels may appear on the screen as a fixed point of blue, green, or red. Please note this does not affect the performance of your LCD.
No remote control operations can be performed.		Check whether the batteries have discharged completely and, if they have not, whether they were inserted properly. Check whether the remote control sensor is exposed to an outdoor light or a strong fluorescent light. Check whether the remote control designed specifically for use with the unit is being used. (The unit cannot be operated by any other remote control.)
A cracking sound is sometimes heard from the unit.		If there is nothing wrong with the picture or sound, this is the sound of the cabinet undergoing very slight contractions in response to changes in the room temperature. There are no adverse effects on the performance or other aspects.
The top or bottom of the picture on the screen is cut off when I use the zoom function.		Adjust the position of the picture on the screen.
Areas at the top and bottom of the screen where the image is missing appear when I use the zoom function.		When using a video software program (such as a cinema size program) with a screen wider than one in the 16:9 mode, blank areas separate from the images are formed at the top and bottom of the screen.
I can hear sounds coming from inside the unit.		When the power is turned on, a sound of the display panel being driven may be heard: This is normal and not indicative of malfunctioning.
The main unit is hot.		The main unit radiates heat and some of the parts may become hot. This is not a problem for performance or quality. Set up at a location with good ventilation. Do not cover the ventilation holes of the Display with a tablecloth etc., and do not place on top of other equipment.
This LCD Display uses special image processing. Hence a slight time lag may occur between image and audio, depending on the type of input signal. However, this is not a malfunction.		

LCD Display panel

Symptoms	Check
It takes a while for the picture to appear.	The unit digitally processes the various signals in order to reproduce esthetically pleasing images. As such, it sometimes takes a few moments for the picture to appear when the power has been turned on, when the input has been switched or when the images for the main picture and sub picture on the two screens are swapped.
Whirring sounds can be heard from the display unit.	The display unit is fitted with a cooling fan to dissipate heat generated during normal use. The whirring sound is caused by rotation of the fan and is not a malfunction.

VIDEO/COMPONENT/RGB/PC input signals

VIDEO input [Applicable when Multi Screen and Digital Zoom]

	Signal name	Horizontal frequency(kHz)	Vertical frequency(Hz)
1	NTSC	15.73	59.94
2	PAL	15.63	50.00
3	PAL60	15.73	59.94
4	SECAM	15.63	50.00
5	Modified NTSC	15.73	59.94

Applicable input signals for PC Input (D-sub 15P) (* Mark)

	Signal name	Horizontal frequency (kHz)	Vertical frequency (Hz)	COMPONENT	RGB	PC	When Multi Screen and Digital Zoom
1	525 (480) / 60i	15.73	59.94	*	*	*	*
2	525 (480) / 60p	31.47	59.94	*	*	*1	*
3	625 (575) / 50i	15.63	50.00	*	*	*	*
4	625 (575) / 50p	31.25	50.00	*	*	*	*
5	750 (720) / 60p	45.00	60.00	*	*	*	*
6	750 (720) / 50p	37.50	50.00	*	*	*	*
7	1,125 (1,080) / 60i	33.75	60.00	*	*	*	*
8	1,125 (1,080) / 50i	28.13	50.00	*	*	*	*
9	1,125 (1,080) / 24p	27.00	47.92	*	*	*	*
10	1,125 (1,080) / 24sF	33.75	30.00	*	*	*	*
11	1,125 (1,080) / 25p	28.13	25.00	*	*	*	*
12	1,125 (1,080) / 30p	27.00	24.00	*	*	*	*
13	1,250 (1,080) / 50i	31.25	50.00	*	*	*	*
14	640 × 400 @70 Hz	31.46	70.07		*	*	*
15	640 × 480 @60 Hz	31.47	59.94		*2	*	*
16	640 × 480 @72 Hz	37.86	72.81		*	*	*
17	640 × 480 @75 Hz	37.50	75.00		*	*	*
18	640 × 480 @85 Hz	43.27	85.01		*	*	*
19	852 × 480 @60 Hz	31.47	59.94		*2	*	*
20	800 × 600 @56 Hz	35.16	56.25		*	*	*
21	800 × 600 @60 Hz	37.88	60.32		*	*	*
22	800 × 600 @72 Hz	48.08	72.19		*	*	*
23	800 × 600 @75 Hz	46.88	75.00		*	*	*
24	800 × 600 @85 Hz	53.67	85.06		*	*	*
25	1,024 × 768 @60 Hz	48.36	60.00		*	*	*
26	1,024 × 768 @70 Hz	56.48	70.07		*	*	*
27	1,024 × 768 @75 Hz	60.02	75.03		*	*	*
28	1,024 × 768 @85 Hz	68.68	85.00		*	*	*
29	1,152 × 864 @75 Hz	67.50	75.00		*	*	*
30	1,280 × 960 @60 Hz	60.00	60.00		*	*	*
31	1,280 × 960 @85 Hz	85.94	85.00		*	*	*
32	1,280 × 1,024 @60 Hz	63.98	60.02		*	*	*
33	1,280 × 1,024 @75 Hz	79.98	75.03		*	*	*
34	1,280 × 1,024 @85 Hz	91.15	85.02		*	*	*
35	1,600 × 1,200 @60 Hz	75.00	60.00		*	*	*
36	1,600 × 1,200 @65 Hz	81.25	65.00		*	*	*
37	1,066 × 600 @60 Hz	37.88	60.32		*	*	*
38	1,366 × 768 @60 Hz	48.36	60.00		*	*	*
39	Macintosh13" (640 × 480)	35.00	66.67		*	*	*
40	Macintosh16" (832 × 624)	49.72	74.54		*	*	*
41	Macintosh21" (1,152 × 870)	68.68	75.06		*	*	*

*1: When selected the RGB format and 525p signal input to the D-sub terminal, it is recognized as VGA 60Hz signal.

*2: When inputted VGA 60Hz format signal from the other than D-sub terminal, it is recognized as 525p signal.

Note: Signals without above specification may not be displayed properly.

Specifications

		TH-32LHD7UY
Power Source	120 V AC, 50/60 Hz	
Power Consumption		
Maximum	234 W	
Stand-by condition	Save OFF 0.8 W, Save ON 0.6 W	
Power off condition	0.2 W	
LCD Display panel	1,366 × 768 pixels widescreen LCD panel.	
Contrast Ratio	800:1	
Screen size	27" 15/32 (697.7 mm) (W) × 15" 29/64 (392.3 mm) (H) × 31" 33/64 (800.4 mm) (diagonal)	
(No. of pixels)	1,049,088 (1,366 (W) × 768 (H)) [4,096 × 768 dots]	
Operating condition		
Temperature	32 °F - 104 °F (0 °C - 40 °C)	
Humidity	20 % - 80 %	
Applicable signals		
Color System	NTSC, PAL, PAL60, SECAM, Modified NTSC	
Scanning format	525 (480) / 60i · 60p, 625 (575) / 50i · 50p, 750 (720) / 60p · 50p, 1125 (1080) / 60i · 50i · 24p · 25p · 30p · 24sF ... SMPTE274M, 1250 (1080) / 50i	
PC signals	WXGA display SVGA, XGA, SXGA, UXGA ... (compressed) Horizontal scanning frequency 15 - 110 kHz Vertical scanning frequency 48 - 120 Hz	
Connection terminals		
AV	VIDEO IN VIDEO OUT S VIDEO IN (MINI DIN 4PIN) AUDIO IN (RCA PIN JACK × 2)	1.0 Vp-p (75-ohm or high impedance) 1.0 Vp-p (low impedance) Y:1 Vp-p (75-ohm), C:0.286 Vp-p (75-ohm) 0.5 Vrms (high impedance)
COMPONENT/RGB	Y/G (BNC) Rb/B (BNC), Pr/R (BNC) AUDIO IN (RCA PIN JACK × 2)	Y or G with/sync 1.0 Vp-p (75-ohm) G without/sync 0.7 Vp-p (75-ohm) 0.7 Vp-p (75-ohm) 0.5 Vrms (high impedance)
PC	(HIGH-DENSITY D-SUB 15PIN) Component Y : Pb · Pr / Cb · Cr : AUDIO IN (M3 JACK)	R,G,B/0.7 Vp-p (75-ohm) 1.0 Vp-p (75-ohm) 0.7 Vp-p (75-ohm) HD, VD/1.0 - 5.0 Vp-p (high impedance) 0.5 Vrms (high impedance)
SERIAL	EXTERNAL CONTROL TERMINAL (D-SUB 9PIN)	RS-232C COMPATIBLE
SPEAKERS (6 Ω)	16W [8 W + 8 W] (10 % THD)	
Accessories Supplied		
Remote Control Transmitter	EUR646535	
Batteries	2 × AA Size	
Fixing bands	(TMME203) × 2	
Ferrite core	J0KF00000018 × 2, J0KG00000054 × 2	
Dimensions (W × H × D)	31" 11/16 (805 mm) × 19" 43/64 (499.6 mm) × 4" 5/32 (102 mm) (exclusive of protruding portion)	
Mass (weight)		
main unit only	approx. 37.5 lbs	
with speakers	approx. 46.3 lbs	

Note:

Design and specifications are subject to change without notice. Mass and dimensions shown are approximate.

Customer's Record

The model number and 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 _____

Serial Number _____

© 2005 Matsushita Electric Industrial Co., Ltd. All Rights Reserved.

Panasonic Broadcast & Television Systems Company

Unit of Panasonic Corporation of North America

Executive Office :

One Panasonic Way 4E-7, Secaucus, NJ 07094 (201) 348-7000

EASTERN ZONE : One Panasonic Way 4E-7 Secaucus, NJ 07094 (201) 348-7621

Mid-Atlantic/New England : One Panasonic Way 4E-7 Secaucus, NJ 07094 (201) 348-7621

Southeast Region : 1225 Northbrook Parkway, Ste 1-160 Suwanee GA 30024 (770)338-6835

Central Region : 1707 N Randall Road E1-C-1, Elgin, IL 60123 (847)468-5200

WESTERN ZONE : 3330 Cahuenga Blvd W., Los Angeles, CA 90068 (323) 436-3500

Dallas Region : 6226 Abington Way, Houston, TX 77008 (713) 802-2726

No. CA/Northwest Region : 5870 Stone Ridge, #3, Pleasanton, CA (925) 416-5108

Government Marketing Department : 52 West Gude Drive, Rockville, MD 20850 (301) 738-3840

Panasonic Canada Inc.

5770 Ambler Drive

Mississauga, Ontario

L4W 2T3