Panasonic®

Operating Instructions
Manual de instrucciones
High Definition Hospitality LCD Display
Pantalla de LCD de alta definición para la industria hotelera

Model No. **TH-32LRT12U**
Número de modelo **TH-37LRT12U**

HDMI™
HIGH-DEFINITION MULTIMEDIA INTERFACE

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.

La ilustración mostrada es una imagen.
Antes de conectar, utilizar o ajustar este producto, lea completamente este manual de instrucciones;
y guárdelo para consultarlo en el futuro en caso de ser necesario.

English

Español

This video monitor is designed to display television content from a separate TV tuner. Full-power analog TV broadcasting in the United States will end (as required by law) on February 17, 2009, after which full-power TV broadcasts will be digital only. If this device is used after that date to record or display programming from a product with a TV tuner that relies on a TV antenna, that product would need to contain a digital tuner, or a TV Converter would be necessary to tune the digital signal received with a TV antenna. Analog TVs should continue to work as before for other purposes (e.g., for watching low-power TV stations still broadcasting in analog, watching pre-recorded movies, or playing video games). When a Converter is used with an older television receiver or directly with this product, a signal splitter might be necessary to continue to receive low-power analog broadcasts via an antenna. For more information, please see www.DTV.gov or 1-888-CALL-FCC. For information on the TV Converter program, and on government coupons that may be used toward the purchase of one, see www.dtv2009.gov, or call the NTIA at 1-888-DTV-2009. Please check with your cable or satellite service provider if you have questions about your cable or satellite set-top box.

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

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.

This device complies with Part15 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.

FCC CAUTION:
To assure continued compliance, follow the attached installation instructions and use only shielded interface cables when connecting to computer or peripheral devices. Any changes or modifications not expressly approved by Panasonic Corp. of North America could void the user's authority to operate this device.

FCC Declaration of Conformity

Model No. TH-32LRT12U, TH-37LRT12U

Responsible Party:	Panasonic Corporation of North America One Panasonic Way 1F-10, Secaucus, NJ 07094
Contact Source:	Panasonic Professional Display Company Panasonic Plasma Concierge 1-800-973-4390

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

Note:

• Image retention may occur. If you display a still picture for an extended period, the image might remain on the screen. However, it will disappear after a while.
• Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

Trademark Credits
• VGA is a trademark of International Business Machines Corporation.
• Macintosh is a registered trademark of Apple Computer, USA.
• VGA, SVGA, and XGA are registered trademarks 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.
• HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

Safety Precautions

⚠ CAUTION

<u>This LCD Display is for use only with the following optional accessories.</u> **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 Panasonic Corporation.)

- Wall-hanging bracket (angled) TY-WK32TM1
- Wall-hanging bracket TY-WK32TM2
- ATSC Tuner for Hospitality ....Enseo DTB1510 / Enseo DTB1510 TB
- Main Board (32") TNM4CD0819FA
- Main Board (37") TNM4CD0819FB
- Power Board (32") TNM4CD0821F
- Power Board (32"/37") TNM4CD0822F
- IR Board TNM4CD0906F
- RS232 Board TNM4CD0820F
- SW+AV3 Board (37") TNM4CD0807F
- Key Board (32") TNM4CD0809F
- AV3 Board (32") TNM4CD0810F
- SPEAKERS TTX4CM008C

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

Small parts can present choking hazard if accidentally swallowed. Keep small parts away from young children. Discard unneeded small parts and other objects, including packaging materials and plastic bags/sheets to prevent them from being played with by young children, creating the potential risk of suffocation.

■ When using the LCD Display

Do not bring your hands, face or objects close to the ventilation holes of the Display.

• Top of the Display is usually very hot due to the high temperature of exhaust air being released through the ventilation holes. Burns or personal injuries can happen if any body parts are brought too close. Placing any object near the top of the display could also result in heat damages to the object as well as to the Display if its ventilation holes are blocked.

Be sure to disconnect all cables before moving the 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 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 Display.
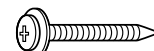
Note:

Image retention may occur. If you display a still picture for an extended period, the image might remain on the screen. However, it will disappear after a while.

■ To Prevent the Display From Falling

Required accessories: Ⓐ Holding Strip (1) Ⓑ Assembly screw (1) size: 4 mm x 10 Ⓒ Wood screw (1)
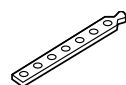
1. Use the wood screw to attach the holding strip to the base table (C).
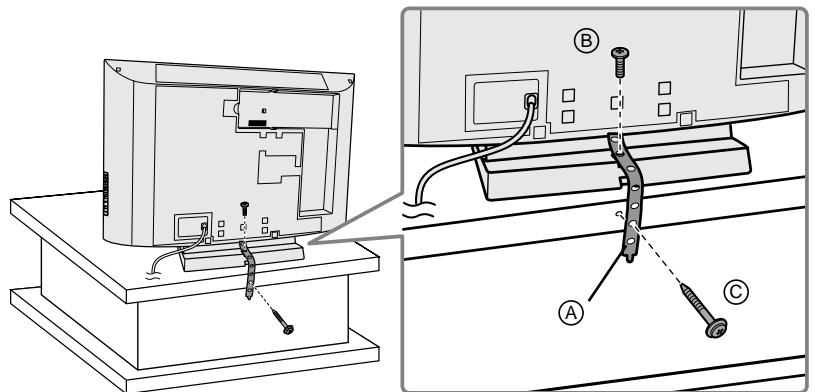
   Note:
   If the base table has no hole, align with the hole on the holding strip and dig one on the base table.

2. Screw the holding strip to the pedestal (B).

Note:

Make sure that the holes on the holding strip are properly aligned with the pedestal and the base table to ensure stability and prevent the Display from falling down.

WARNING

■ Setup

Do not place the Display on sloped or unstable surfaces.
• The Display may fall off or tip over.

Do not place any objects on top of the Display.
• If water spills onto the 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 Display, please consult an Authorized Service Center.

Do not cover the ventilation holes.
• Doing so may cause the Display to overheat, which can cause fire or damage to the Display.

Transport only in upright position!
• Transporting the unit with its display panel facing upright or downward may cause damage to the internal circuitry.

When using the pedestal, leave a space of 3 15/16” (10 cm) or more at the top, left and right, and 2 3/4” (7 cm) or more at the rear, and also keep the space between the bottom of the display and the floor surface. If using some other setting-up method, follow the manual of it. (If there is no specific indication of installation dimension in the installation manual, leave a space of 3 15/16” (10 cm) or more at the top, bottom, left and right, and 2 3/4” (7 cm) or more at the rear.)

■ AC Power Supply Cord

The Display is designed to operate on 110 - 127 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 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 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 Display, if the 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 in which neutral detergent has been diluted 100 times, 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 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

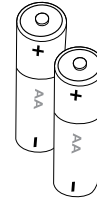**Check that you have the Accessories and items shown** ☑
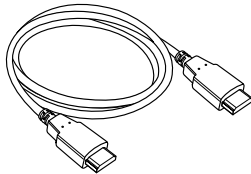
☐ Operating Instruction book
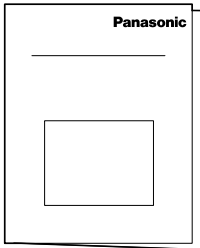
☐ Remote Control Transmitter
TNQ4CM051

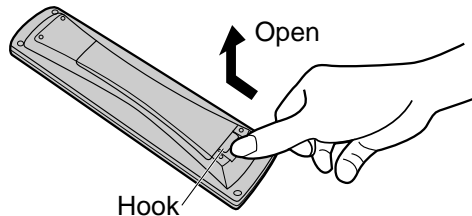☐ Batteries for the Remote Control
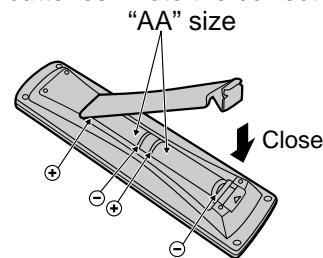Transmitter (AA Size × 2)

☐ HDMI cable
(for TH-32LRT12U,
TH-37LRT12U)

Remote Control Batteries

Requires two AA batteries.

1. Push the hook to release, then open the battery cover.

Open

Hook

2. Insert batteries - note the correct polarity (+ and -).

"AA" size

Close

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 Plasma Display.
6. Do not burn or breakup batteries.
   Batteries must not be exposed to excessive heat such as sunshine, fire or the like.

Location

Place the display at a comfortable distance for viewing. Avoid placing it 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 an internal component failure. Keep away from areas of excessive heat or moisture.

■How to use the pedestal

Adjust the stand to your desired angle.
The stand angle can be rotated 15 ° to the right / left.

(View from above)

15°   15°

LCD panel side
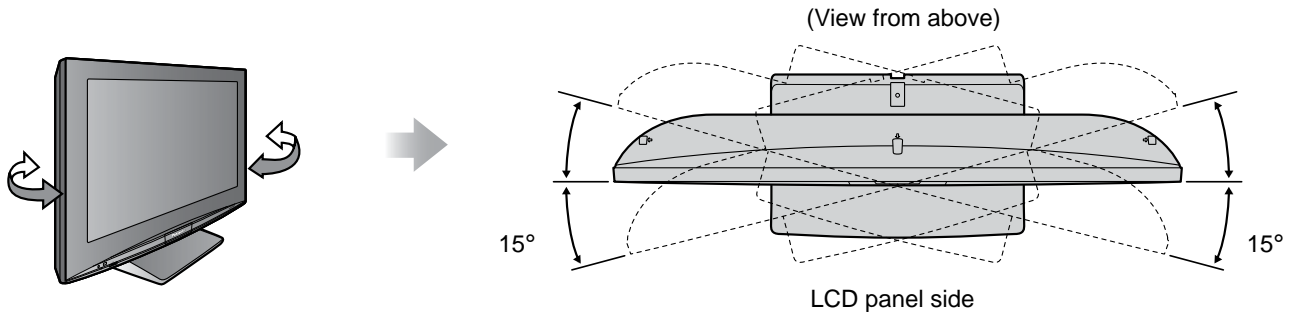
Preparation for Wall-hanging

Before mounting the display on the wall, you must remove the pedestal from the display.
Follow the steps below:

1 **Disconnect all the cables from the display.**

2 **Remove the pedestal.**

Ⓐ Remove the four screws.

Ⓑ Pull out the pedestal.

Foam mat or thick
soft cloth
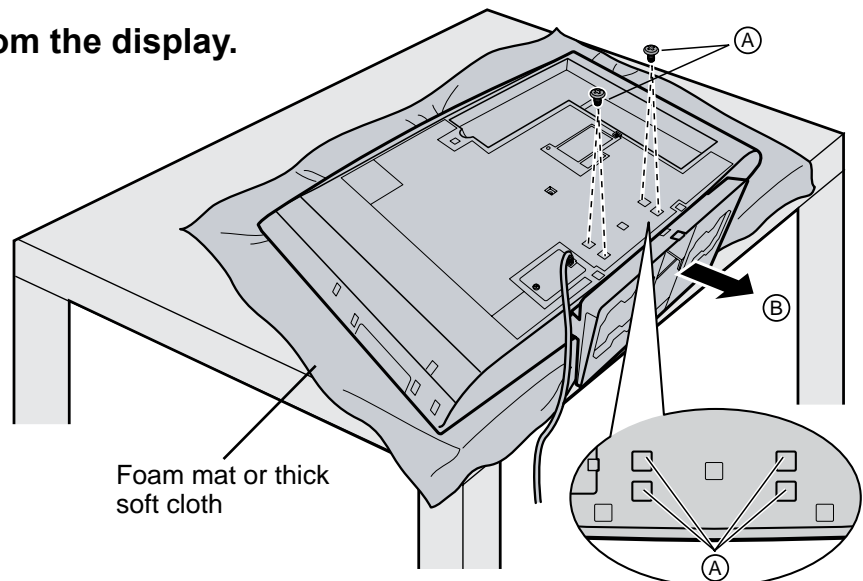
WARNING
● Failure to use a Panasonic bracket or choosing to mount the unit yourself will be done at the risk of the consumer.
  Any damage resulting from not having a professional installer mount will void your unit's warranty.
● Always be sure to ask a qualified technician to carry out set-up.
  Incorrect fitting may cause equipment to fall, resulting in injury and product damage.
● Do not mount this LCD display directly below ceiling lights (such as spotlights, floodlights, or halogen lights) which typically give off high heat. Doing so may warp or damage plastic cabinet parts.
● To prevent foreign objects from entering the Display, place the enclosed sticker label on the lower area of the Display to cover the holes.
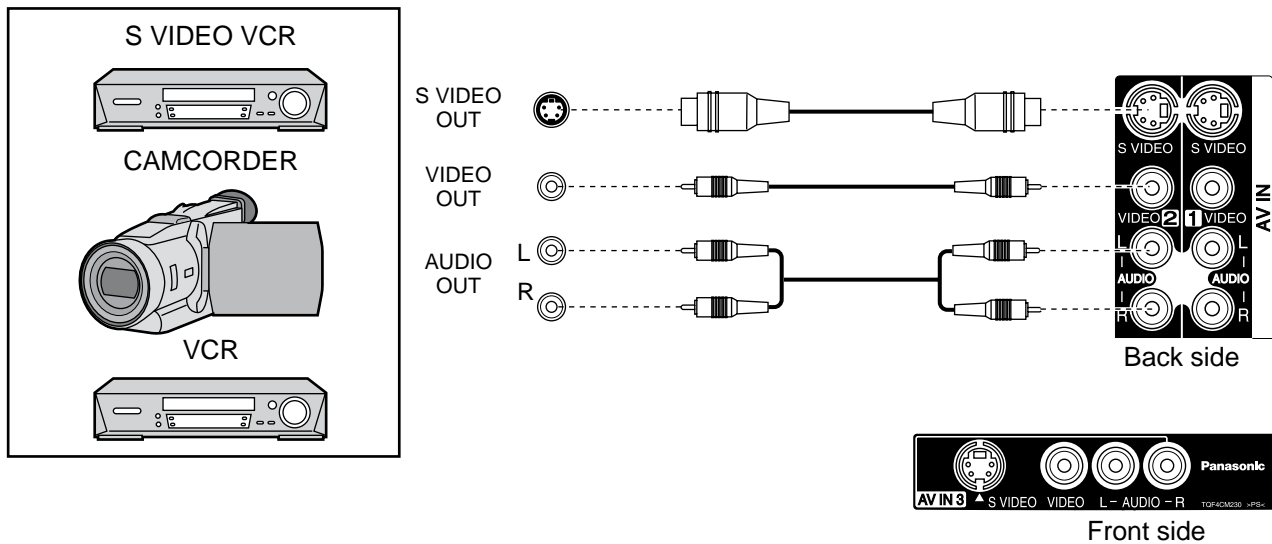
Connections

Front side

Lift door to open

AV connection (see page 11)

AV IN 3 ▲ S VIDEO   VIDEO   L – AUDIO – R   TQF4CM230 >PS<

Panasonic

Back side

S VIDEO   S VIDEO

VIDEO 2   1 VIDEO

AV IN — AV connection (see page 11)

L
AUDIO
R

Y

COMPONENT — Component (YPbPr) connection (see page 11)

L
AUDIO
R

Pв

Pв

TQF4CM228 >PS<

PC IN — PC input terminals connection (see page 12)

SERIAL

R/G/B

AUDIO

Serial Terminals connection (see page 14)

HDMI

1 ▶ HDMI

2 ▶ HDMI — HDMI connection (see page 13)

3 ▶ HDMI

L   R

AUDIO OUT — Audio out connection (see page 13)

AV connection

Example of input signal source

S VIDEO VCR

CAMCORDER

VCR

S VIDEO OUT

VIDEO OUT

AUDIO OUT
L
R

S VIDEO   S VIDEO

VIDEO 2   1 VIDEO

L   L
AUDIO   AUDIO
R   R

AV IN

Back side

AV IN 3   ▲ S VIDEO   VIDEO   L — AUDIO — R   Panasonic   TQF4CM230 >PS<

Front side

Notes:
• Additional equipment and cables shown are not supplied with this set.
• If S Video and Video devices are both connected, the S Video input signal is the priority source.

Component (YPbPr) connection

Example of input signal source

DVD

Digital TV-SET-TOP-BOX
(DTV-STB)

COMPONENT VIDEO OUT
Y

$Y, P_B, P_R,$
OUT

P_B

P_R

AUDIO OUT
L
R

Y

P_B

P_R

L
AUDIO
R

COMPONENT
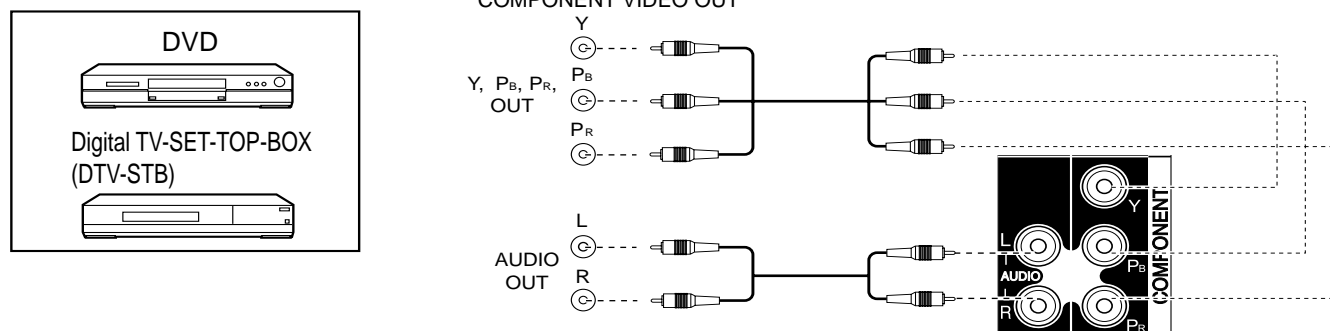
Note:
Additional equipment and cables shown are not supplied with this set.

PC Input Terminals connection

COMPUTER

Conversion adapter
(if necessary)

(Female)

Mini D-sub 15p

RGB

PC cable

(Male)

PC IN

R / G / B

AUDIO

Audio

Stereo plug

Connect a cable which matches
the audio output terminal on the computer.
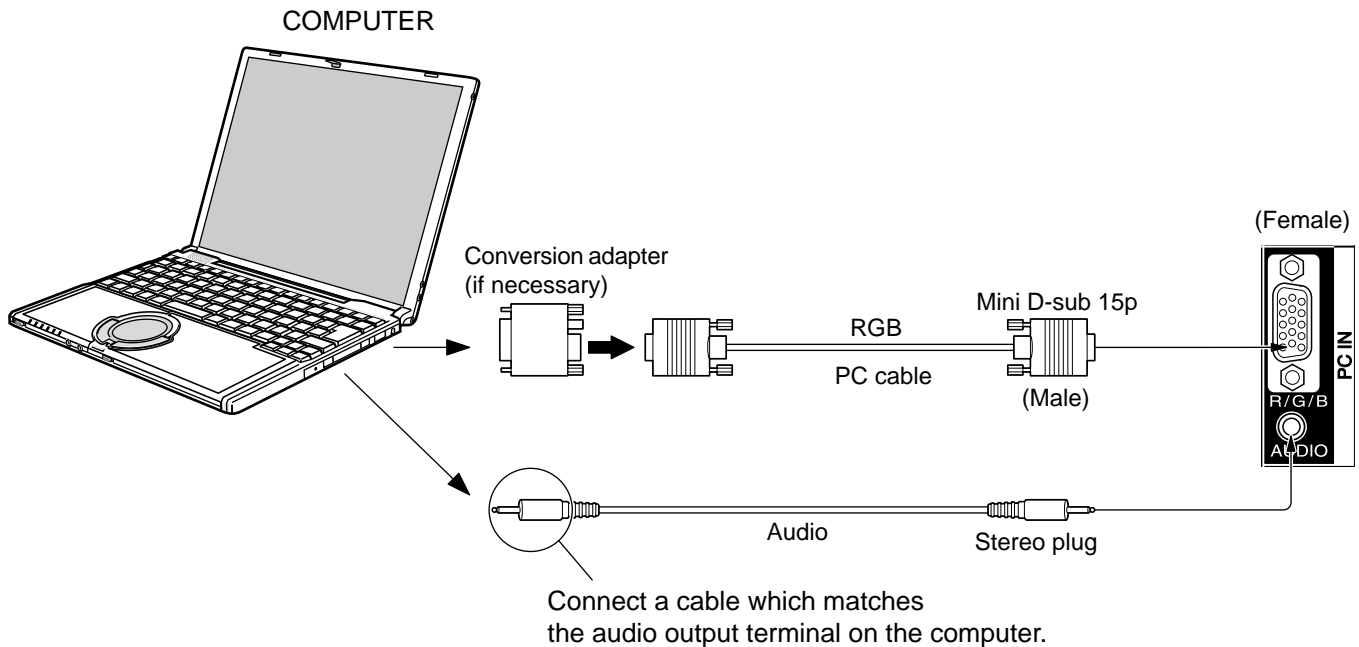
Notes:
• Computer signals which can be input are those with a horizontal scanning frequency of 15 to 79.97 kHz and vertical scanning frequency of 48 to 75 Hz. (However, the image will not be displayed properly if the signals exceed 1,200 lines.)
• The display resolution is a maximum of 1,024 × 768 dots when the aspect mode is set to "4:3", 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 DDC2B-compatible. If the computer being connected is not DDC2B-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 Mini 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.
• Component Input is possible with the pin 1, 2, 3 of the Mini D-sub 15P Connector.
• Applicable input signals for Mini D-sub 15P (see page 29).

Signal Names for Mini D-sub 15P Connector

⑤ ④ ③ ② ①
⑩ ⑨ ⑧ ⑦ ⑥
⑮ ⑭ ⑬ ⑫ ⑪
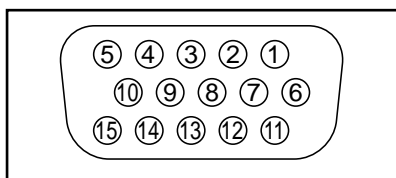
Pin Layout for PC Input Terminal

Pin No.	Signal Name	Pin No.	Signal Name	Pin No.	Signal Name
①	R (P_R/C_R)	⑥	GND (Ground)	⑪	NC (not connected)
②	G (Y)	⑦	GND (Ground)	⑫	SDA
③	B (P_B/C_B)	⑧	GND (Ground)	⑬	HD/SYNC
④	NC (not connected)	⑨	+5 V DC	⑭	VD
⑤	GND (Ground)	⑩	GND (Ground)	⑮	SCL

HDMI connection

HDMI cable

1 ▸
HDMI

2 ▸
HDMI

3 ▸
HDMI

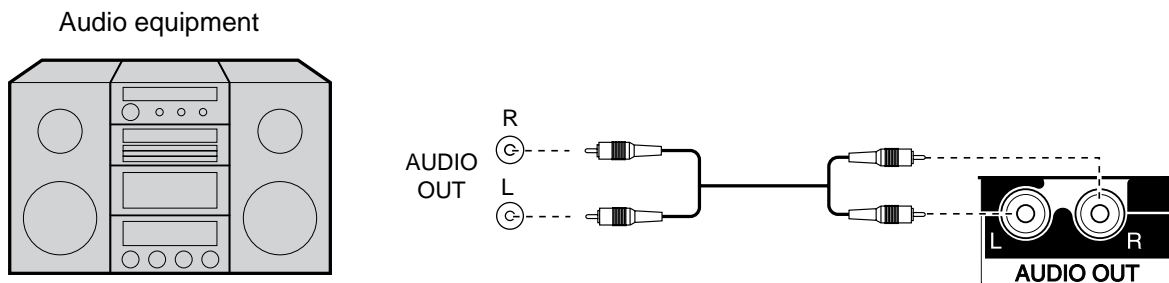HDMI
AV OUT

DVD Player or SET-TOP-BOX
(HDMI compatible machines only)
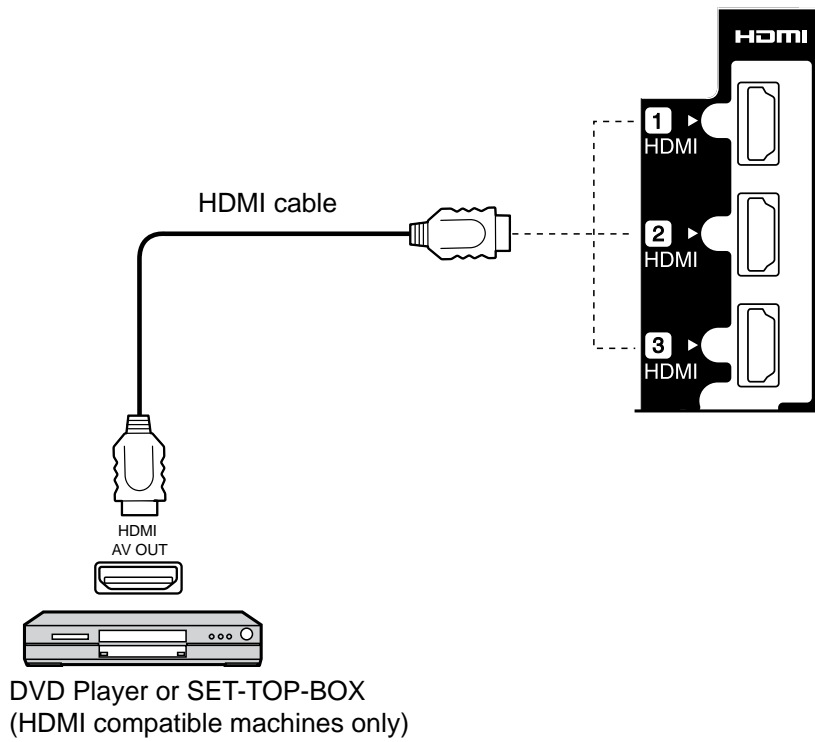
Note:
1. Additional equipment and HDMI cables shown are not supplied with this set.
2. HDMI Version 1.2.

Audio Out connection
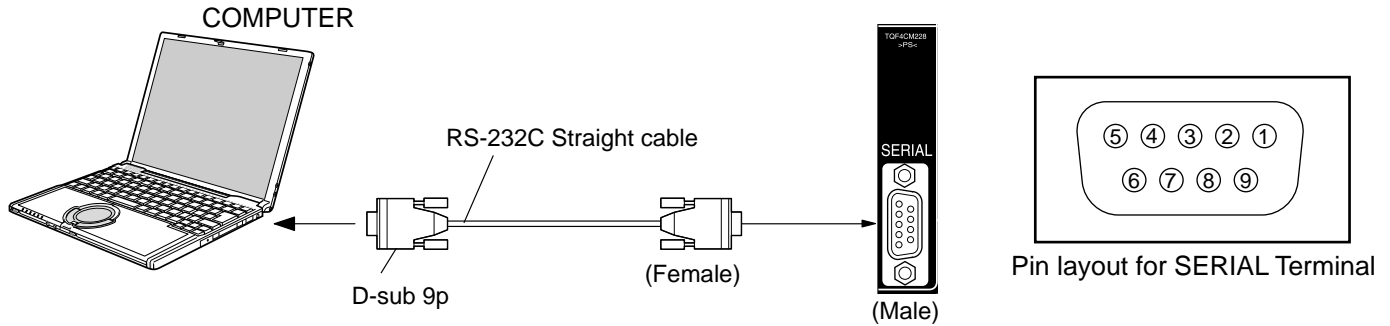
Audio equipment

R

AUDIO
OUT
L

L   R

AUDIO OUT

Note:
Additional equipment and cables shown are not supplied with this set.

Serial Terminals connection

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

COMPUTER

RS-232C Straight cable

SERIAL

D-sub 9p

(Female)

(Male)

Pin layout for SERIAL Terminal

Notes:
• Use the RS-232C straight cable to connect the computer to the 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 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.

Signal names for D-sub 9P connector

Pin No.	Details
②	RXD
③	TXD
⑤	GND
④ • ⑥	Non use
⑦ • ⑧	Non use
① • ⑨	NC

These signal names are those of computer specifications.

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	-

Basic format for control data
The transmission of control data from the computer starts with an 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.

| STX | C1 C2 C3 | (: | P1 P2 P3 P4 P5) | ETX |

Colon — Parameter(s) — End
(1-5 bytes) (03h)

Start (02h)

3-character command (3 bytes)
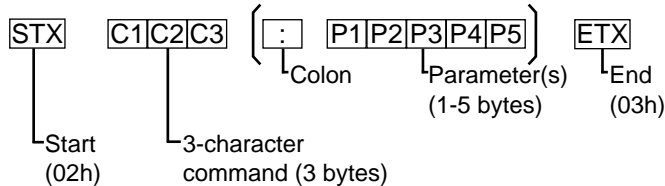
Notes
• If multiple commands are transmitted, be sure to wait for the response for the first command to come from this unit before sending the next command.
• If an incorrect command is sent by mistake, this unit will send an ER401 command back to the computer.

Communication parameters

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)
	RF1	RF INPUT
	AV1	AV1 INPUT
	AV2	AV2 INPUT
	AV3	AV3 INPUT
	YPbPr	YPbPr INPUT
	HDMI1	HDMI1 INPUT
	HDMI2	HDMI2 INPUT
	HDMI3	HDMI3 INPUT
	PC	PC INPUT
DAM	None	Screen mode select (toggle)
	FULL	16:9
	JUST	JUST
	NORM	4:3

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

Power ON / OFF

Using the Power Switch

Remote Control Sensor

Power Indicator   Power Switch
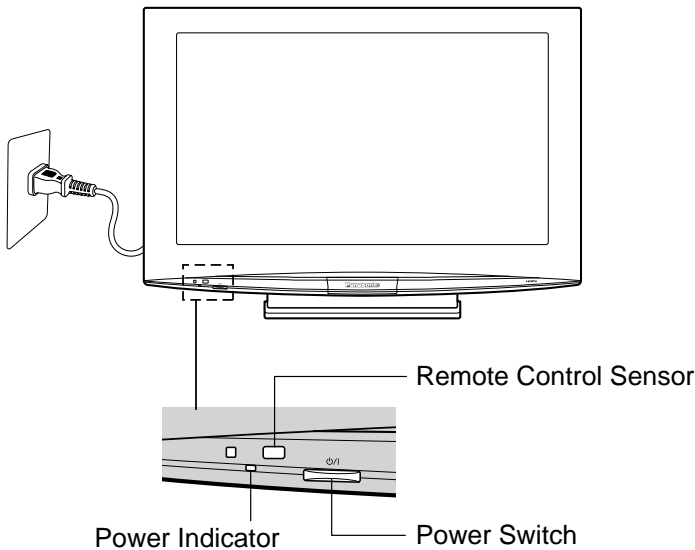
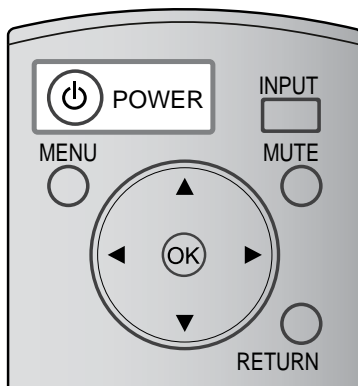**1** **Connect the plug to the Wall Outlet.**

2 **Press the Power switch on the Display to turn the set on: Power-On**

Power Indicator: Green

When the Display is on, press the Power switch on the Display to turn the set off.

Power Indicator: Red (Standby)

Using the Power Button

⏻ POWER ———— **Press the ⏻ POWER button on the remote control to turn the Display on.**
Power Indicator: Green

Press the ⏻ POWER button on the remote control to turn the Display off.

Power Indicator: Red

Note:
The Display will still consume power as long as the AC cord is connected to the wall outlet. Unplug the AC cord to cut-off power.

Initial selections

Selecting the input signal
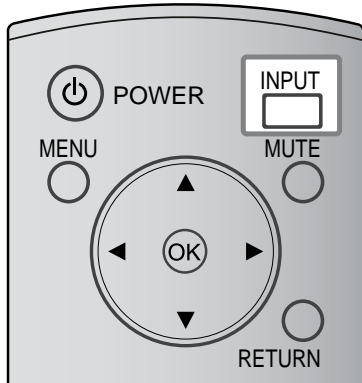
INPUT

Press repeatedly until the desired input source signal is displayed on the screen.

Input signals will change as follows:

$\rightarrow$ HDMI1 $\rightarrow$ HDMI2 $\rightarrow$ HDMI3 $\rightarrow$ PC $\rightarrow$

$\rightarrow$ YPbPr $\leftarrow$ AV3 $\leftarrow$ AV2 $\leftarrow$ AV1 $\leftarrow$
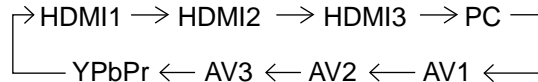
Note:
Selecting is also possible by pressing the INPUT button on the unit.

(TH-32LRT12U)

INPUT

(TH-37LRT12U)

INPUT
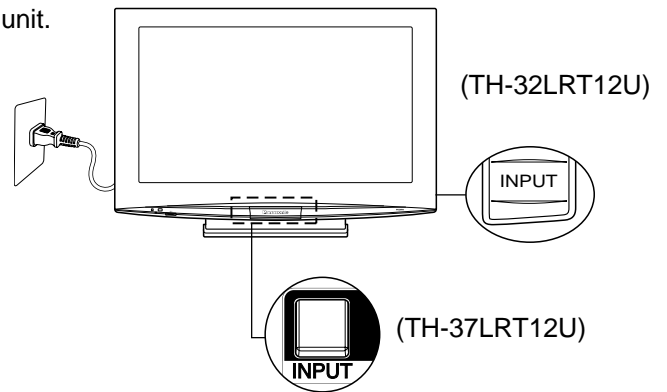
Selecting the On-Screen Menu Language

1 **Display the menu screen.**

2 **Select "Setup Menu".**

| Main Menu |
| Picture Menu |
| Sound Menu |
| **Setup Menu** |

3 **Select "Language".**

Setup Menu	
Language	**English**
Movie Mode	**On**
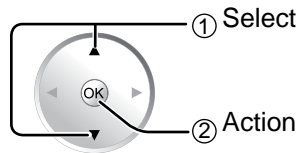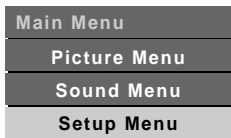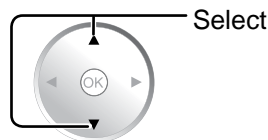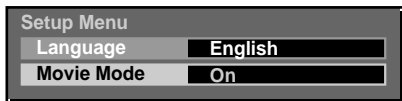
4 **Select your preferred language.**

$\rightarrow$ English $\longleftrightarrow$ Français $\longleftrightarrow$ Español $\leftarrow$

MENU

① Select

② Action

Select

Adjust

POWER   INPUT
MENU   MUTE
OK
RETURN
RECALL ASPECT OFF TIMER
REMOTE CONTROL
TNQ4CM051
CH VOL

1	2	3
4	5	6
7	8	9
100	0	

16
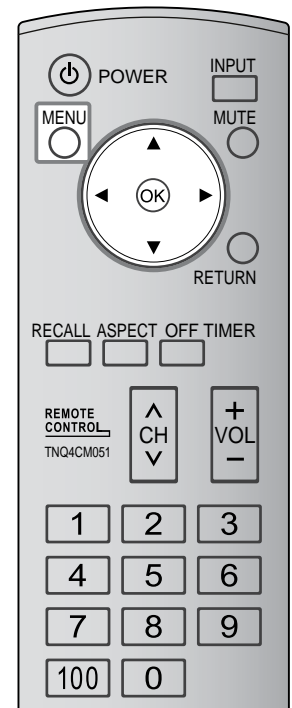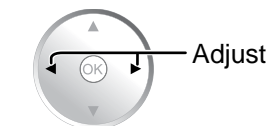
Basic Controls

Main Unit

Power Indicator
The Power Indicator will light.
  • Power-OFF ... Indicator not illuminated
  • Standby .... Red (The Monitor will still consume power as long as the AC cord is still connected to the wall outlet.)
  • Power-ON..... Green

Power On / Off Switch

Remote control sensor

(TH-32LRT12U)

Lift the door to open

(TH-37LRT12U)

Channel Adjustment
Press to change to the next or previous channel.

Volume Adjustment
Press "+" to increase volume or press "-" to reduce volume.

MENU Screen ON (see page 20)
This button is locked by initial setting.

INPUT button (see page 16)
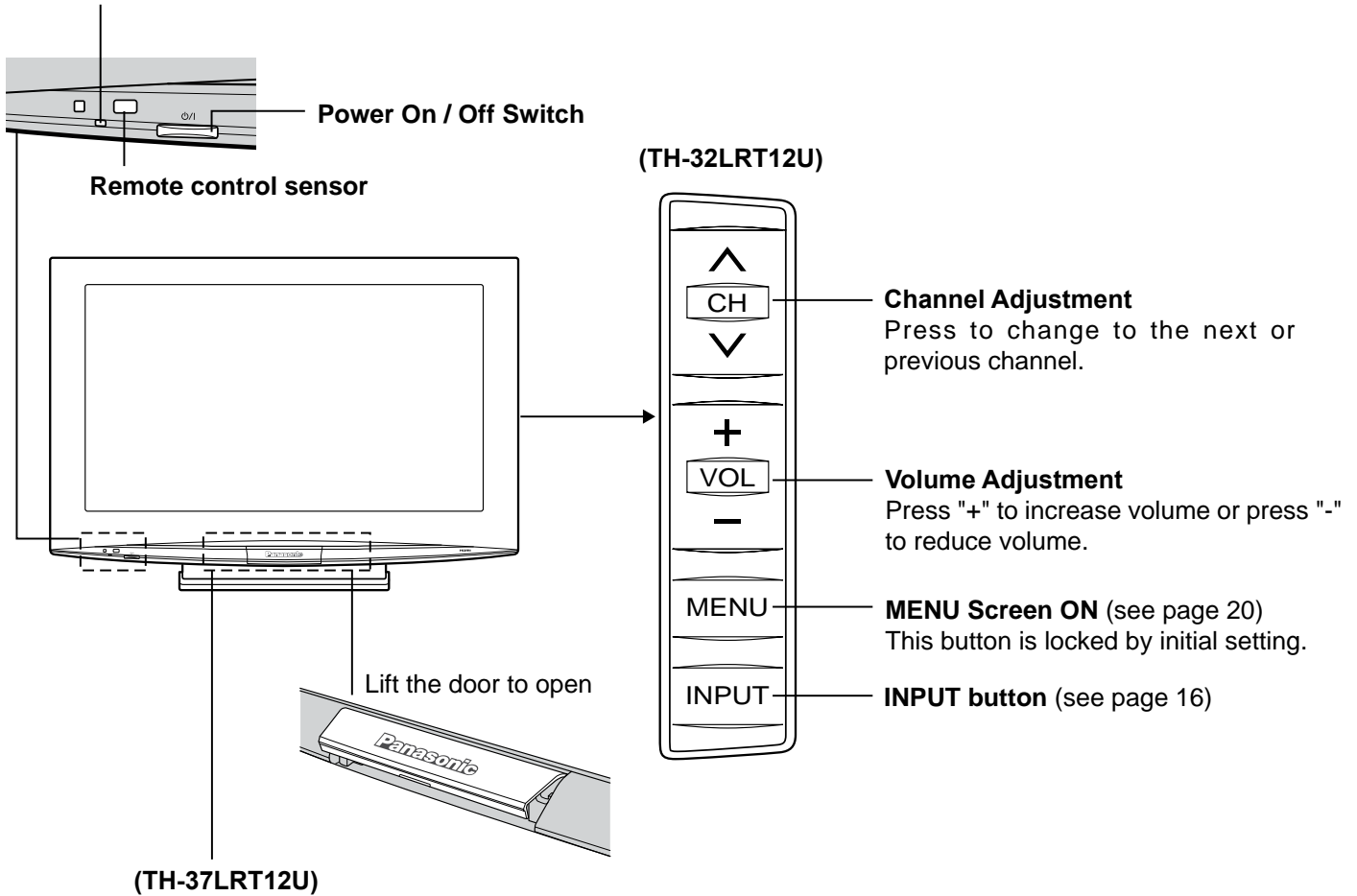
INPUT button
(see page 16)

MENU Screen ON (see page 20)
This button is locked by initial setting.

INPUT   MENU   − VOL +   < CH >
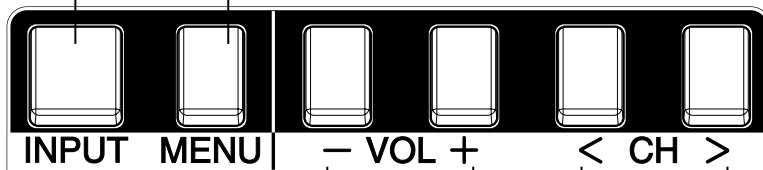
Volume Adjustment
Press "+" to increase volume or press "-" to reduce volume.

Channel Adjustment
Press to change to the next or previous channel.

Basic Controls

Remote Control Transmitter

POWER button
The Monitor must first be plugged into the wall outlet.
Press this button to turn the Monitor on, from standby mode. Press it again to turn the Monitor Off to standby mode.

MENU button
Displays the menu screen.
(see page 20)

OK button
Press to make selections.

POSITION buttons

RECALL button
Press to display the current input signal mode.

ASPECT button
Press to adjust the aspect.
This button can be used only in AV input signal. (see page 19)

Channel buttons
Press the buttons to adjust the channel. These buttons are also used for to adjusting digital channel when a tuner pack is installed. For more information, please refer to the tuner pack's manual.

INPUT button (see page 16)

Sound mute On / Off
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.

RETURN button
Press the RETURN button to return to previous menu screen.

OFF TIMER button
The Monitor can be preset to switch to standby mode after a fixed period. Each time the button is pressed, the timer is changed with an interval of 10 minutes.

10 →20 →30→40 →50
OFF ←120 ←·············· ·60←
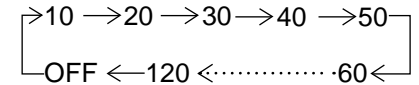
When the timer is set, the Monitor will display a notification countdown 3 minutes before it switches to standby mode.

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

POWER
INPUT
MENU
MUTE
OK
RETURN
RECALL ASPECT OFF TIMER
REMOTE CONTROL
TNQ4CM051
CH
VOL
1 2 3
4 5 6
7 8 9
100 0

Panasonic
DISPLAY
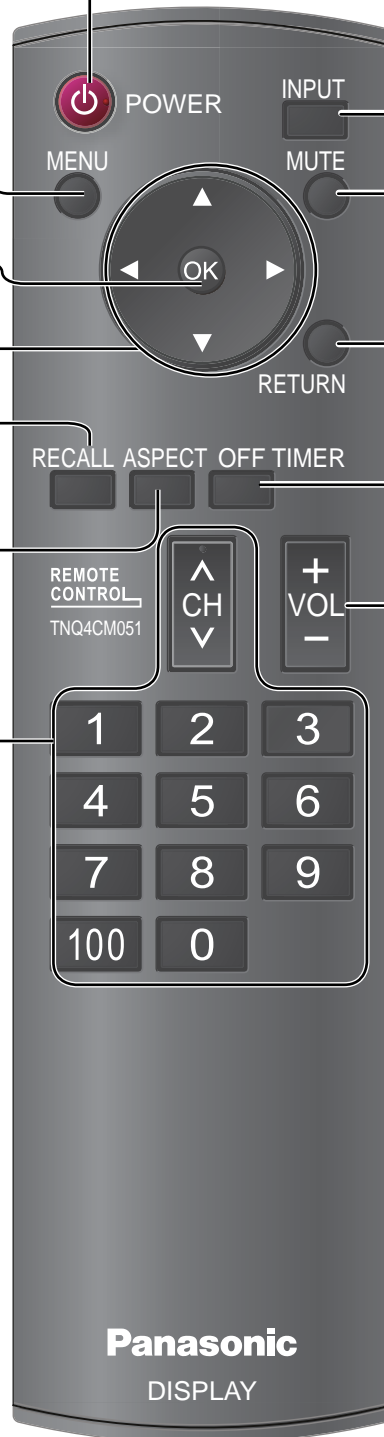
ASPECT Controls

The Display will allow you to enjoy viewing the picture at its maximum size, including wide screen cinema format picture.
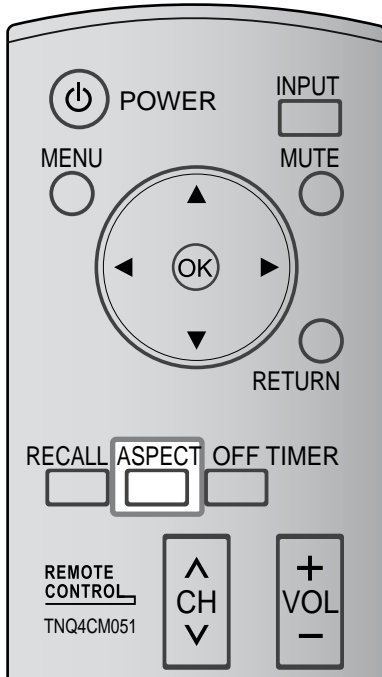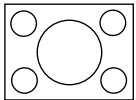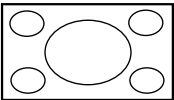
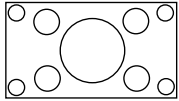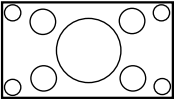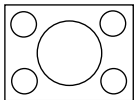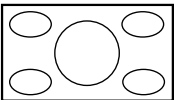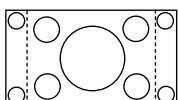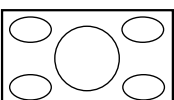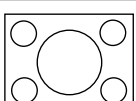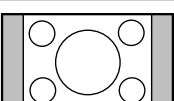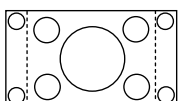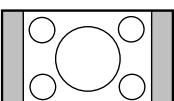ASPECT ——— Press repeatedly to change the aspect.

For "AV" signal input:

→ 16:9 ⟶ JUST ⟶ 4:3 ⌐

For "YPbPr", "HDMI" and "PC" signal input:
The aspect ratio is fixed at 16:9.

REMOTE CONTROL
TNQ4CM051

Aspect mode	Picture Enlarged screen	Description
16:9		The display of the pictures fills the screen. In the case of SD signals, pictures with a 4:3 aspect ratio are enlarged horizontally, and displayed. This mode is suited to displaying anamorphic pictures with a 16:9 aspect ratio.
JUST		Pictures with a 4:3 aspect ratio are enlarged horizontally so that the picture distortion is minimized. The display of the areas around the left and right edges of the screen is slightly elongated.
		Pictures with a 4:3 aspect ratio are enlarged horizontally so that the picture distortion is minimized. The left and right edges of the pictures are cut off. The display of the areas around the left and right edges of the screen is slightly elongated.
4:3		Pictures with a 4:3 aspect ratio are displayed with their original aspect ratio. Side panels are displayed at the left and right edges of the screen.
		Pictures with a 4:3 aspect ratio are displayed with their original aspect ratio. The left and right edges of the pictures are masked by side panels.

On-Screen Menu Display

Various menus allow you to make settings for the picture, sound, and other functions so that you can enjoy watching Display best suited for you.

	Remote Control	**Unit**

1 **Display the menu screen.**
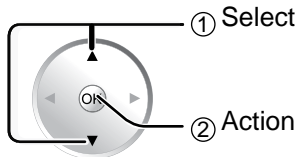
MENU
Press the menu button.

Press the MENU button.
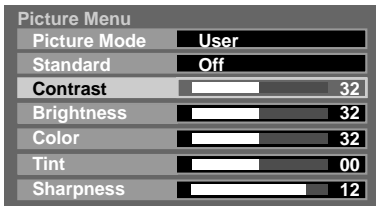① Press the CH buttons to select the menu.
② Press the MENU button.

2 **Select the menu.**

Main Menu
Picture Menu
Sound Menu
Setup Menu
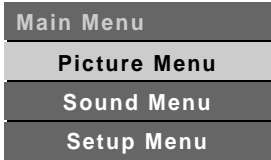
① Select
OK
② Action

3 **Select the item.**

Picture Menu	
Picture Mode	User
Standard	Off
Contrast	32
Brightness	32
Color	32
Tint	00
Sharpness	12

(Example: Picture Menu)
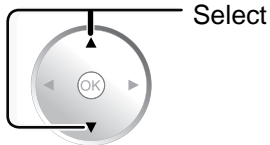
Select
OK

Press the CH < or > buttons to select the item.

4 **Adjust or select.**

Contrast	
	32
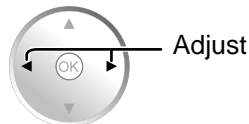
OK Adjust

Press the VOL + or – buttons.

5 **Exit the menu.**

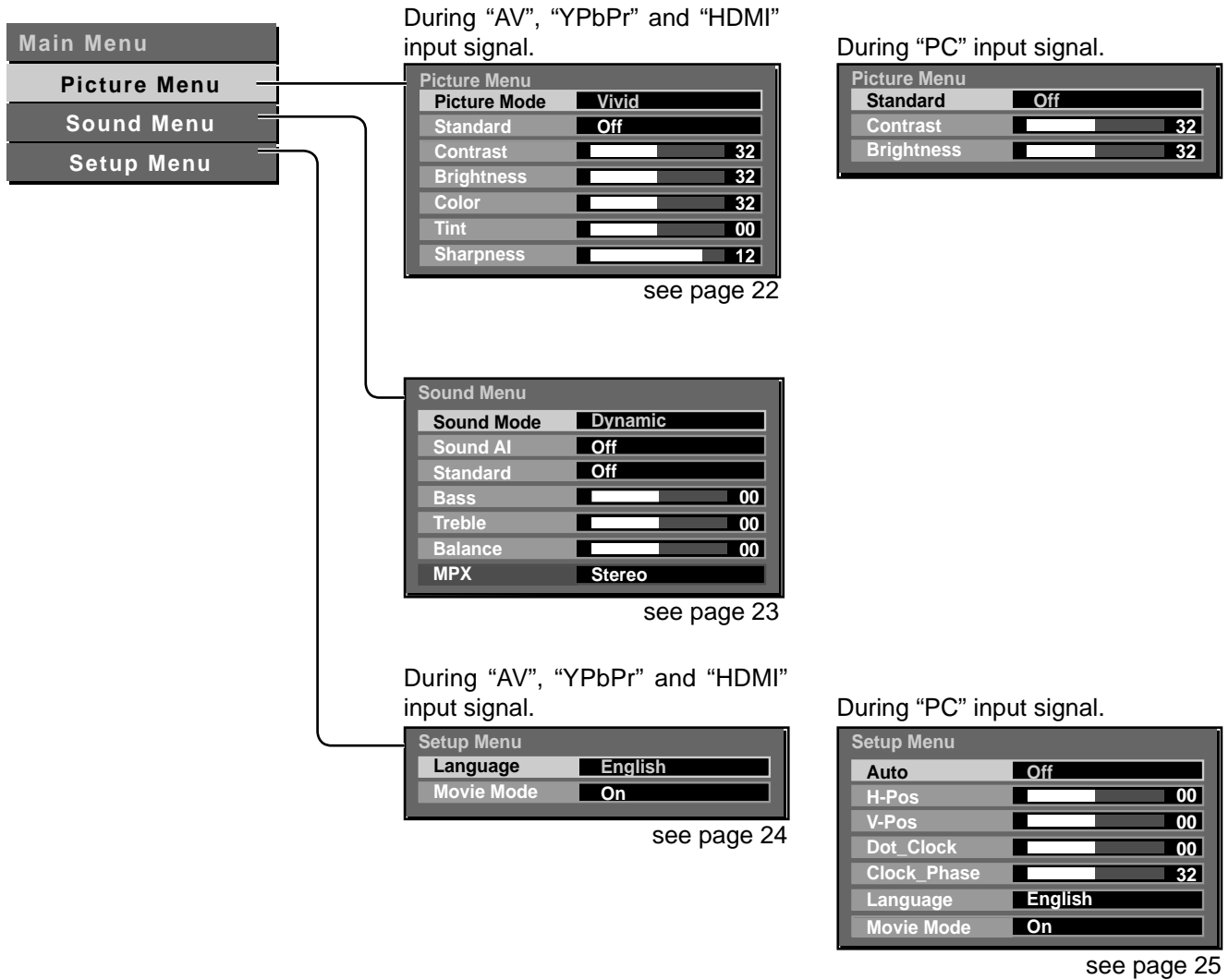RETURN Press to return to the previous menu.
Press several times until you exit the menu.

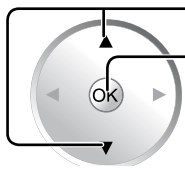Press the INPUT button several times until you exit the menu.

Overview

Note:
Menu that cannot be adjusted is grayout. Adjustable menu changes depending on signal, input and menu setting.

Main Menu
Picture Menu
Sound Menu
Setup Menu

During "AV", "YPbPr" and "HDMI" input signal.

Picture Menu	
Picture Mode	Vivid
Standard	Off
Contrast	32
Brightness	32
Color	32
Tint	00
Sharpness	12

see page 22

During "PC" input signal.

Picture Menu	
Standard	Off
Contrast	32
Brightness	32

Sound Menu	
Sound Mode	Dynamic
Sound AI	Off
Standard	Off
Bass	00
Treble	00
Balance	00
MPX	Stereo

see page 23

During "AV", "YPbPr" and "HDMI" input signal.

Setup Menu	
Language	English
Movie Mode	On

see page 24

During "PC" input signal.

Setup Menu	
Auto	Off
H-Pos	00
V-Pos	00
Dot_Clock	00
Clock_Phase	32
Language	English
Movie Mode	On

see page 25

Picture Menu

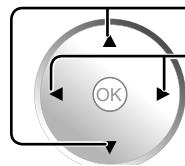**1** Press $\overset{\text{MENU}}{\bigcirc}$ to display the menu screen.

2 Select **Picture Menu**.

Press to select the menu to adjust.

Press to enter menu.

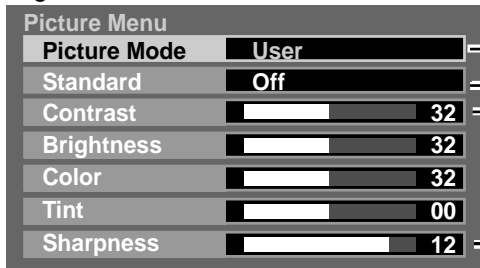**3** Select to adjust each item.

Press to select the menu to adjust.
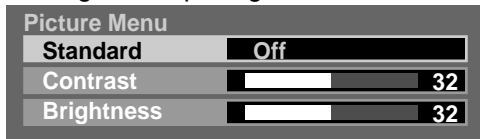
Press to select the desired setting.

Notes:
• As you scroll through the settings, the Monitor display changes synchronously.
• Menu items that cannot be adjusted are grayed out. Adjustable menu changes depending on signal, input and menu setting.
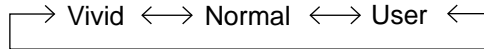
4 Press $\underset{\text{RETURN}}{\bigcirc}$ repeatedly to exit the menu.

During "AV", "YPbPr", "HDMI" input signal.

Picture Menu	
Picture Mode	**User**
Standard	**Off**
Contrast	**32**
Brightness	**32**
Color	**32**
Tint	**00**
Sharpness	**12**

Press the ◄ or ► buttons to switch between modes.

$$\rightarrow \text{Vivid} \longleftrightarrow \text{Normal} \longleftrightarrow \text{User} \leftarrow$$

Vivid
Provides enhanced picture contrast and sharpness for viewing in a well-lit room.

Normal
Recommended for normal viewing conditions with subdued room lighting.

User
Customizes each item according to the user's preference.

During "PC" input signal.

Picture Menu	
Standard	**Off**
Contrast	**32**
Brightness	**32**

Standard (Off / On)
Select **On** to reset all picture to the factory default settings.

Contrast / Brightness / Color / Tint / Sharpness
Depending on the selected **Picture Mode**, these items have preset settings.

To adjust each setting according to the user's preference, set **Picture Mode** to **User**, then press the ◄ or ► buttons.
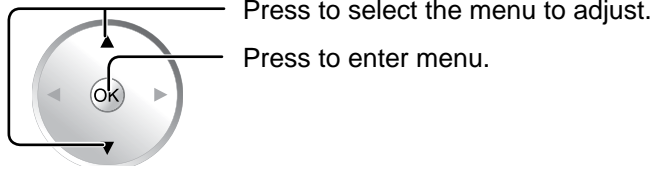
Contrast	
	32

Item	Details
Contrast	Adjusts the white areas.
Brightness	Adjusts the dark areas.
Color	Adjusts the color intensity.
Tint	Adjusts the natural flesh tones.
Sharpness	Adjusts the clarity of outline detail.

Sound Menu

1 Press $\overset{\text{MENU}}{\bigcirc}$ to display the menu screen.

2 Select **Sound Menu**.

Press to select the menu to adjust.

Press to enter menu.

3 Select to adjust each item.

Press to select the menu to adjust.

Press to select the desired setting.
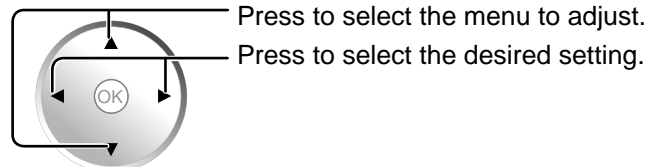
4 Press $\underset{\text{RETURN}}{\bigcirc}$ repeatedly to exit the menu.

Sound Menu	
Sound Mode	**Dynamic**
Sound AI	**Off**
Standard	**Off**
Bass	00
Treble	00
Balance	00
MPX	**Stereo**

Press the ◄ or ► buttons to switch between modes.

→ Mono ←——→ Stereo ←
→ M2 ←——→ M1 ←
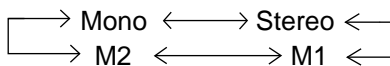
Note: Adjustable only in RF mode (when a tuner pack is installed)

Press the ◄ or ► buttons to switch between modes.

→ Dynamic ←——→ Music ←
→ Normal ←
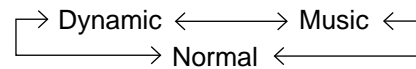
Dynamic
Accentuates sharp sounds.

Music
Stresses the sense of sharp sounds.

Normal
Emits the original sound.

Sound AI (Off / On)
Select **On** to equalize overall volume levels across all external inputs.

Standard (Off / On)
Select **On** to reset Bass, Treble, and Balance settings to factory defaults.

Press the ◄ or ► buttons to adjust settings.

Bass	
	00

Bass
Adjusts low pitch sounds.

Treble
Adjusts pitch sounds.

Balance
Adjusts the left and right volumes.

Setup Menu

1 Press $\overset{\text{MENU}}{\bigcirc}$ to display the menu screen.
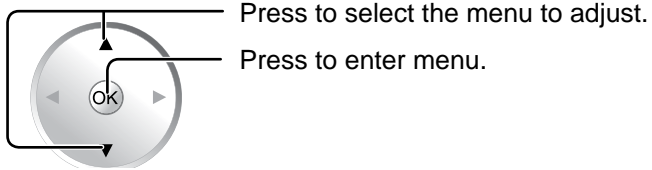
2 Select **Setup Menu**.

Press to select the menu to adjust.

Press to enter menu.

3 Select to adjust each item.

Press to select the menu to adjust.

Press to select the desired setting.

4 Press $\underset{\text{RETURN}}{\bigcirc}$ repeatedly to exit the menu.

During "AV", "YPbPr", and "HDMI" input signal.

Setup Menu	
Language	English
Movie Mode	On
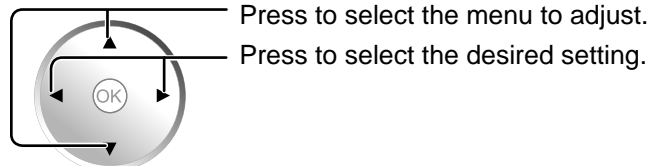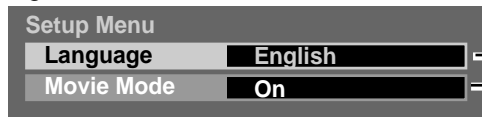
Press the ◄ or ► buttons to switch between menu languages.

→ English ⟷ → Français ←
→ Español ←

Movie Mode (Off / On)
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.
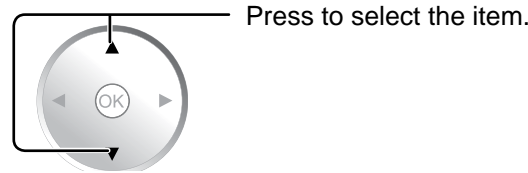If the picture is not stable, turn this setting to **Off**.
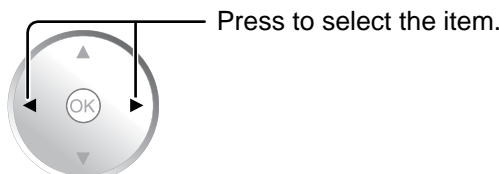
24

PC Setup

1 Press ^{MENU} ◯ to display the menu screen.

2 Select **Setup Menu**.

    Press to select the Setup menu.

    Press to enter menu.

3 Select to adjust each item.
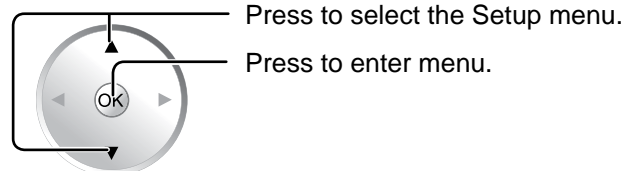
    Press to select the item.

4 Adjust the setting.

    Press to select the item.
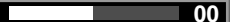
5 Press _{RETURN} ◯ repeatedly to exit the menu.

During "PC" input signal.

Setup Menu	
Auto	**Off**
H-Pos	**00**
V-Pos	**00**
Dot_Clock	**00**
Clock_Phase	**32**
Language	**English**
Movie Mode	**On**

On / Off
Select **On** to automatically adjust H-Pos, V-Pos, Dot_Clock, and Clock_Phase.

Press the ◄ or ► buttons to adjust settings.

H-Pos	
	00

H-Pos
Adjust the horizontal position.

V-Pos
Adjust the vertical position.

Dot_Clock
Periodic striped pattern interference (noise) may occur when a striped pattern is displayed. If this happens, adjust Dot_Clock to minimize such noise.

Clock_Phase
Eliminate the flickering and distortion.

Notes:
• If the PC is not connected, some items are unadjustable.
• Unadjustable items are grayed out.
• As you scroll through the settings, the TV display changes synchronously.
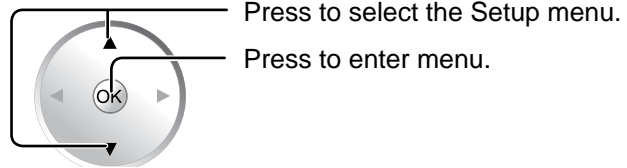
HOTEL MODE Setup

The Hotel Mode is a special function which allows users to configure settings to suit certain locations or applications.
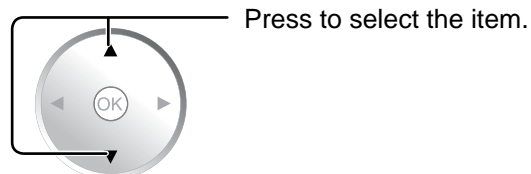
1 Press ◯ (MENU) to display the menu screen.

2 Select **Setup Menu**.

Main Menu
Picture Menu
Sound Menu
Setup Menu

Press to select the Setup menu.

Press to enter menu.

3 Select **Movie Mode**.

Setup Menu	
Language	English
Movie Mode	On

Press to select the item.

4 Press and hold ◯ (MUTE) for more than 3 seconds.

5 Select the item and set desired settings.

Setup Menu	
Initial Input	Off
Onscreen Display	On
Initial VOL Level	Off
Maximum VOL Level	Off
Input Lock	Off
Button Lock	Menu
Remocon User Level	Off

Press to select the item.

Press to adjust settings.

6 Press ◯ (RETURN) repeatedly to exit the menu.

26
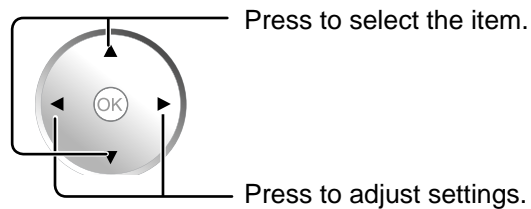
Hotel Mode Menu List

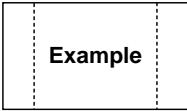| Item	Details
Initial Input	**Off** ⟷ **RF** ⟷ **AV1** ⟷ **AV2** ⟷ **AV3** ⟷ **YPbPr** ⟷ **HDMI1** ⟷ **HDMI2** ⟷ **HDMI3** ⟷ **PC** Adjusts the input signal when the unit is turned on. **Off:** The input signal when the power was last turned off is set. **Note:** This menu is available only when "Input Lock" is "Off". RF mode is available only when Pal Tuner is connected.
Onscreen Display	**Off**: Onscreen information is not displayed. **On**: Onscreen information is displayed, such as: • Power on display • Input signal switch display • No signal display • Mute and the remaining time of off-timer **On 1**: Onscreen information is displayed, except some RS-232C communication information is not displayed.
Initial VOL Level	Used to set the volume level at power-on. **Off**: The volume is set to the same level as when the power was last turned off. **0 to 63**: The volume is set to the selected level. **Note**: It is not possible to select an Initial VOL Level setting which is higher than the Maximum VOL Level setting.
Maximum VOL Level	Used to set the volume level so that it will not exced the maximum setting. **Off**: No restrictions are placed on the volume level. **0 to 63**: The volume is restricted to the selected level. **Note**: It is not possible to select a Maximum VOL Level setting which is lower than the Initial VOL Level setting.
Input Lock	**Off** ⟷ **RF** ⟷ **AV1** ⟷ **AV2** ⟷ **AV3** ⟷ **YPbPr** ⟷ **HDMI1** ⟷ **HDMI2** ⟷ **HDMI3** ⟷ **PC** Locks the input switch operation. **Off:** Input switch can be used. **Note:** RF mode is available only when Pal Tuner is connected.
Button Lock	Used to restrict the operation of the buttons on the main unit. **Off:** All the buttons on main unit can be used. **Menu:** Locks the **Menu** button on the main unit. **On:** Locks all the buttons on the main unit except the **Power** button.
Remocon User Level	**Off** ⟷ **User1** ⟷ **User2** ⟷ **User3** **Off:** You can use all of the buttons on the remote control. **User1:** You can only use ⏻ POWER, INPUT, ⊛, MUTE, +/- buttons on the remote control. **User2:** You can only use ⏻ POWER button on the remote control. **User3:** Locks all the buttons on remote control.

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)
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.
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.
The edges of the images flicker.	Due to the characteristics of the system used to drive the panel, the edges may appear to flicker in the fast-moving parts of the images: This is normal and not indicative of malfunctioning.
The brightness on both sides of images in 4:3 mode changes.	When viewing the side panels at the "BRIGHT" or "MID" setting, the brightness on both sides may change depending on the kind of program shown: This is normal and not indicative of malfunctioning.
There may be red spots, blue spots, green spots and black spots on the screen.	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 fixed points of red, blue, green, or black. Please note this does not affect the performance of your LCD.
Example Image retention appears	Image retention may occur. If you display a still picture for an extended period, the image might remain on the screen. However, it will disappear after a while. This is not considered as malfunction.

Applicable Input Signals

Applicable input signals for Mini D-sub 15P

	Signal name	Horizontal frequency (kHz)	Vertical frequency (Hz)	Dot clock frequency (MHz)
1	640 x 480 @ 60 Hz	31.47	59.94	25.18
2	640 x 480 @ 72 Hz	37.86	72.81	31.5
3	640 x 480 @ 75 Hz	37.50	75.00	31.5
4	800 x 600 @ 56 Hz	35.16	56.25	36.0
5	800 x 600 @ 60 Hz	37.88	60.32	40.0
6	800 x 600 @ 72 Hz	48.08	72.19	50.0
7	800 x 600 @ 75 Hz	46.88	75.00	49.5
8	1024 x 768 @ 60 Hz	48.36	60.00	65.0
9	1024 x 768 @ 70 Hz	56.48	70.07	75.0
10	1024 x 768 @ 75 Hz	60.02	75.03	78.75

Note: Signals without the above specifications may not be displayed properly.

Specifications

	TH-32LRT12U	TH-37LRT12U
Power Source	110 - 127 V AC, 50/60 Hz	
Power Consumption		
Power on	155 W	190 W
Stand-by condition	1 W	1 W
Aspect Ratio	16:9	
Screen size	27.5" x 15.4" x 31.5"	32.2" x 18.1" x 37.0"
(W x H x Diagonal)	(698 mm x 392 mm x 800 mm)	(819 mm x 460 mm x 940 mm)
(No.of pixels)	1,049,088 (1,366 (W) x 768 (H))	
Operating condition		
Temperature	32 °F - 104 °F (0 °C - 40 °C)	
Humidity	20 % - 80 %	
Applicable Input signals		
PC signals	VGA, SVGA, XGA Horizontal scanning frequency 31.469 - 60.023 Vertical scanning frequency 56 - 85 Hz	

Connection terminals

AV1 - AV3	VIDEO IN (RCA PIN JACK x 3) 1.0 Vp-p (75 Ω) S VIDEO IN (MINI DIN 4PIN x 3) Y:1.0 Vp-p (75 Ω), C: 0.286 Vp-p (75 Ω) AUDIO IN (RCA PIN JACK x 3) 0.5 Vrms
YP_BP_R	Y (RCA PIN JACK x 1) 1.0 Vp-p (75 Ω) P_B/P_R (RCA PIN JACK x 1) 0.7 Vp-p (75 Ω) AUDIO IN (RCA PIN JACK x 1) 0.5 Vrms
PC IN	(HIGH-DENSITY MINI D-SUB 15PIN) Y or G with sync 1.0 Vp-p (75 Ω) Y or G without sync 0.7 Vp-p (75 Ω) $B/P_B/C_B$: 0.7 Vp-p (75 Ω) $R/P_R/C_R$: 0.7 Vp-p (75 Ω) HD/VD: 1.0 - 5.0 Vp-p (high impedance) AUDIO IN (M3 JACK) 0.5 Vrms
HDMI1 - HDMI3	TYPE A Connector x 3
AUDIO OUT	RCA PIN JACK x 2 0.5 Vrms
RS-232C	EXTERNAL CONTROL TERMINAL (D-SUB 9PIN) RS-232C COMPATIBLE

Dimensions (W × H × D)		
Including pedestal	32.4" x 23" x 9.3" (821 mm x 584 mm x 236 mm)	37.4" x 25.6" x 12.1" (949 mm x 650 mm x 307 mm)
Display Set only	32.4" x 21.3" x 4.2" (821 mm x 539 mm x 106 mm)	37.4" x 25.6" x 4.1" (949 mm x 608 mm x 104 mm)
Mass (weight)		
Including pedestal	36.4 lbs	47.4 lbs
Display Set only	30.9 lbs	39.7 lbs
Sound		
Audio Output	20W [10 W + 10 W] (10 % THD)	

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

(for the U.S.A and Puerto Rico)

Panasonic Professional Display Company
Unit of Panasonic Corporation of
North America
One Panasonic Way 1F-10
Secaucus, NJ 07094

**Panasonic Professional Flat Panel Display
Limited Warranty**

Panasonic Professional Display Company. (referred to as "the Warrantor") will repair this product and all included accessories with new or refurbished parts, free of charge in the USA or Puerto Rico, of the original purchase in the event of a defect in materials or workmanship as follows:

Models or Parts	Part Warranty	Labor Warranty
Professional Flat Panel Display	2 Years	2 Years

On-site or carry-in service in the **USA and Puerto Rico** may be obtained during the warranty period by contacting Panasonic Professional Display Company Service toll free at 1-800-973-4390.

This warranty is extended only to the original purchaser and is non transferable. A purchase receipt or other proof of date of original purchase will be required before warranty service is rendered.

This warranty only covers failures due to defects in materials or workmanship, which occur during normal use. The warranty does not cover damage which occur in shipment, or failures which are caused by products not supplied by the warrantor, or failures which result from improper installation, set-up adjustments, improper antenna, inadequate signal pickup, maladjustment of consumer controls, improper operation, power line surge, improper voltage supply, lighting damage, or service by anyone other than an authorized repair facility, or damage that is attributable to acts of God.

LIMITS AND EXCLUSIONS

There are no express warranties except as listed above.

THE WARRANTOR SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING, WITHOUT LIMITION, DAMAGE TO DISCS) RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THE WARRANTY. ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE, ARE LIMITED TO THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions or limitations may nor apply to you. This warranty gives you specific legal rights and you may other rights, which vary from state to state.

If you have a problem with this product that is not handled to your satisfaction, then write the Consumer Affairs Department at the Company address indicated above.

In the USA and Puerto Rico
FOR SERVICE
CALL TOLL FREE
1-800-973-4390

(for Canada)

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

Panasonic Canada Inc. (also known as PCI) warrants this product to be free of defects in material and workmanship under normal use during the applicable warranty coverage period described below. PCI agrees to repair, or at its option, exchange, any part that becomes defective. However, the product must be purchased and serviced in Canada. The product or part that shows evidence of defect must be delivered prepaid or carried in to an authorized Panasonic Broadcast Service Center. This warranty does not cover shipping costs.

The warranty coverage period is one year for both parts and labour beginning with the date of original end user purchase, subject to the exceptions as stated below. Repaired or replacement parts supplied during the warranty coverage period carry the unexpired portion of the original warranty coverage period. Proof of product purchase is a condition of warranty service. The owner must produce the product purchase receipt or other satisfactory evidence of date of original purchase.

This warranty does not apply to external appearance items, such as handles, knobs, safety windows, etc. This warranty does not apply to any part, or parts, of the product, installed, altered, repaired or misused in any way that, in the opinion of PCI, affects the reliability of or detracts from the performance of the product.

For products requiring routine preventive maintenance, that maintenance must be performed in order to maintain warranty coverage.

Serial numbers that have been altered, defaced or removed void this warranty. This warranty does not cover replacements or repairs necessitated by loss or damage resulting from any cause beyond the control of PCI.

Marking or retained images (sometimes called "burn-in") resulting from the display of fixed images on video display products are not defects and are not covered under this warranty.

THIS EXPRESS, LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT WILL PANASONIC CANADA INC. BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES.

In certain instances, some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, or the exclusion of implied warranties, so the above limitations and exclusions may not be applicable.

WARRANTY COVERAGE PERIOD EXCEPTIONS

Item	Parts	Labour
Video Tape	30 days—Replacement only (content not covered)	N/A
P2/SD Cards	(Content not covered)	N/A
Video Heads	1 year or 2,000 hrs. (prorated) Whichever comes first	1 year or 2,000 hrs. Whichever comes first
D5 Video heads	1 year or 1,000 hrs. Whichever comes first	1 year or 1,000 hrs. Whichever comes first
Maintenance Items	90 days	90 days
Colour Camera CCD Imaging Block	2 years	1 year
BT-H Series LCD Monitors	2 years	1 year
* DLP™ Projectors	3 years or 17,000 hrs. Whichever comes first	3 years or 17,000 hrs. Whichever comes first
* LCD Projectors above 2,500 ANSI Lumens	3 years or 2,500 hrs. Whichever comes first	3 years or 2,500 hrs. Whichever comes first.
* LCD Projectors below 2,500 ANSI Lumens	3 years or 1,500 hrs. Whichever comes first	3 years or 1,500 hrs. Whichever comes first
Projector Lamps	50% of the rated lamp life or 1 year. Whichever comes first	50% of the rated lamp life or 1 year. Whichever comes first.
103 inch Plasma displays	3 year (burn-in not covered)	3 year
Hard Drive Disk Unit	1 year plus balance (if any) of the original Manufacturer's Limited Warranty. (Content not covered)	1 year

• Dust, smoke, rental/staging environment and twenty-four/seven operation, dramatically decreases the interval between performances of routine preventive maintenance required to maintain this warranty coverage.

Warranty Service
If the product needs to be shipped for service, carefully pack (preferably in the original carton) and enclose a letter, detailing the complaint. Send prepaid and adequately insured to the local authorized Panasonic Service Centre in your area or to Panasonic Technical Support and Product Services Department, 5770 Ambler Drive, Mississauga, Ontario, L4W 2T3. Shipping to the latter location requires a return authorization before shipment. No liability is assumed for loss or damage to the product while in transit.

Customer Service

Customer Service Directory

Obtain information products and operative assistant; localize the closer distributor or Service Center; buy spare parts and accessories by our web site to Latin American:

http://www.lar.panasonic.com

Also you may contact us directly by our Contact Center:

Panama	**800-PANA (800-7262)**
Colombia	**1-8000-94PANA (1-8000-947262) - National Line**
	635-PANA (635-7262) - Bogota Line
Ecuador	**1800-PANASONIC (1800-726276)**
Costa Rica	**800-PANA737 (800-7262737)**
El Salvador	**800-PANA (800-7262)**
Guatemala	**1-801-811-PANA (1-801-811-7262)**
Chile	**800-260602**
	From a cell phone: 245-2520
Venezuela	**800-PANA-800 (800-7262-800)**
Uruguay	**0-800-PANA (0800-7262)**

Mexico Service

To obtain information in the Republic of Mexico contact us at:

email: atencion.clientes@mx.panasonic.com

Or you may contact us in the next following phones numbers:

01800-VIP-PANA (01800-847-7262) - Interior

(55) 5000-1200 - Mexico D.F. and Metropolitan Area

This product has a fluorescent lamp that contains mercury.
Disposal may be regulated in your community due to environmental considerations. For disposal or recycling information, please contact your local authorities, or the Electronic Industries Alliance:
http://www.eiae.org.

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