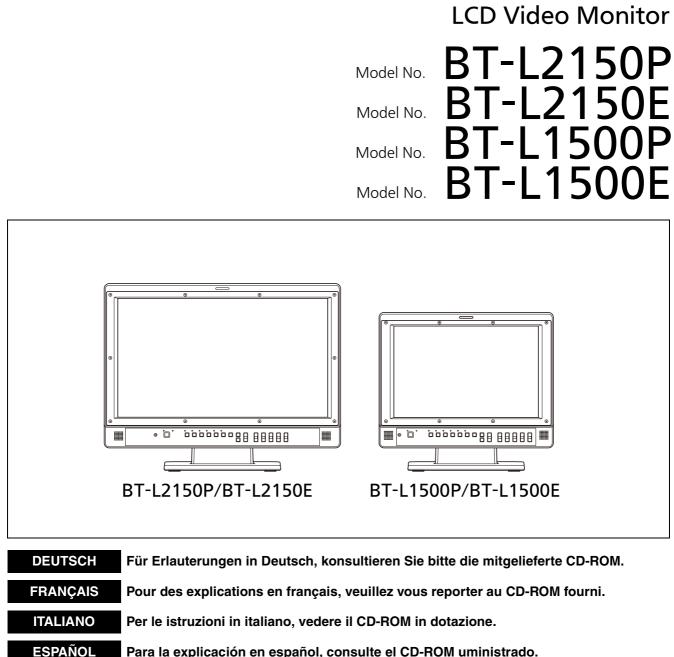


Operating Instructions



Para la explicación en español, consulte el CD-ROM uministrado.



Before operating this product, please read the instructions carefully and save this manual for future use.



Read this first ! (for BT-L2150P/1500P)



CAUTION: 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 arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:

This equipment must be grounded.

To ensure safe operation, the three-pin plug must be inserted only into a standard three-pin power outlet which is effectively grounded through normal household wiring. Extension cords used with the equipment must have three cores and be correctly wired to provide connection to the ground. Wrongly wired extension cords are a major cause of fatalities. The fact that the equipment operates satisfactorily does not imply that the power outlet is grounded or that the installation is completely safe. For your safety, if you are in any doubt about the effective grounding of the power outlet, please consult a qualified electrician.

WARNING:

- To reduce the risk of fire or shock hazard, do not expose this equipment to rain or moisture.
- To reduce the risk of fire or shock hazard, keep this equipment away from all liquids. Use and store only in locations which are not exposed to the risk of dripping or splashing liquids, and do not place any liquid containers on top of the equipment.

indicates safety information.

Notice (U.S.A. only):

Disposal may be regulated in your community due to Environmental considerations. For disposal or recycling information, please visit Panasonic website: http://www.panasonic.com/environmental or call 1-888-769-0149.

WARNING:

Always keep the tilt stand screws and protective panel screws out of the reach of infants and small children.

CAUTION:

The mains plug of the power supply cord shall remain readily operable.

The AC receptacle (mains socket outlet) shall be installed near the equipment and shall be easily accessible. To completely disconnect this equipment from the AC mains, disconnect the power cord plug from the AC receptacle.

CAUTION:

In order to maintain adequate ventilation, do not install or place this unit in a bookcase, built-in cabinet or any other confined space. To prevent risk of electric shock or fire hazard due to overheating, ensure that curtains and any other materials do not obstruct the ventilation.

CAUTION:

To reduce the risk of fire or shock hazard and annoying interference, use the recommended accessories only.

CAUTION:

This apparatus can be operated at a voltage in the range of 100 - 240 V AC. Voltages other than 120 V are not intended for U.S.A. and Canada.

CAUTION:

Excessive sound pressure from earphones and headphones can cause hearing loss.

FCC NOTICE (USA)

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

CAUTION:

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Warning:

To assure continued FCC emission limit compliance, the user must use only shielded interface cables when connecting to external units. Also, any unauthorized changes or modifications to this equipment could void the user's authority to operate it.

indicates safety information.

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.



WARNING:

This equipment must be earthed.

To ensure safe operation, the three-pin plug must be inserted only into a standard three-pin power point which is effectively earthed through normal household wiring.

Extension cords used with the equipment must have three cores and be correctly wired to provide connection to the earth. Wrongly wired extension cords are a major cause of fatalities. The fact that the equipment operates satisfactorily does not imply that the power point is earthed or that the installation is completely safe. For your safety, if you are in any doubt about the effective earthing of the power point, please consult a qualified electrician.

WARNING:

- To reduce the risk of fire or shock hazard, do not expose this equipment to rain or moisture.
- To reduce the risk of fire or shock hazard, keep this equipment away from all liquids. Use and store only in locations which are not exposed to the risk of dripping or splashing liquids, and do not place any liquid containers on top of the equipment.

WARNING:

Always keep the tilt stand screws and protective panel screws out of the reach of infants and small children.

CAUTION:

Do not remove panel covers by unscrewing them. To reduce the risk of electric shock, do not remove covers. No user serviceable parts inside. Refer servicing to qualified service personnel.

CAUTION:

The mains plug of the power supply cord shall remain readily operable.

The AC receptacle (mains socket outlet) shall be installed near the equipment and shall be easily accessible. To completely disconnect this equipment from the AC mains, disconnect the power cord plug from the AC receptacle.

CAUTION:

To reduce the risk of fire or shock hazard and annoying interference, use the recommended accessories only.

CAUTION:

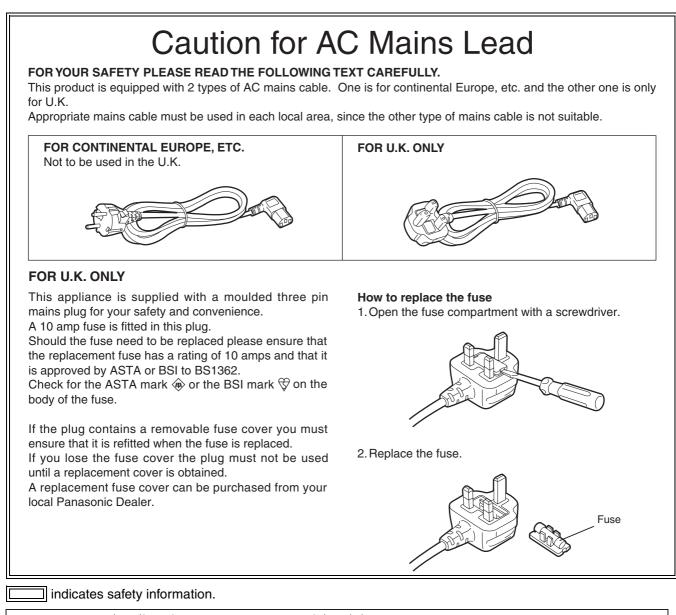
In order to maintain adequate ventilation, do not install or place this unit in a bookcase, built-in cabinet or any other confined space. To prevent risk of electric shock or fire hazard due to overheating, ensure that curtains and any other materials do not obstruct the ventilation.

CAUTION:

Excessive sound pressure from earphones and headphones can cause hearing loss.

indicates safety information.

EEE Yönetmeliğine Uygundur. EEE Complies with Directive of Turkey.



Pursuant to at the directive 2004/108/EC, article 9(2) Panasonic Testing Centre Panasonic Service Europe, a division of Panasonic Marketing Europe GmbH Winsbergring 15, 22525 Hamburg, F.R. Germany

EMC NOTICE FOR THE PURCHASER/USER OF THE APPARATUS

1. Applicable standards and operating environment

- The apparatus is compliant with:
 - standards EN55103-1 and EN55103-2 2009, and
 - electromagnetic environments E1, E2, E3 and E4.
- 2. Pre-requisite conditions to achieving compliance with the above standards
 - <1> Peripheral equipment to be connected to the apparatus and special connecting cables
 - The purchaser/user is urged to use only equipment which has been recommended by us as peripheral equipment to be connected to the apparatus.
 - The purchaser/user is urged to use only the connecting cables described below.

<2> For the connecting cables, use shielded cables which suit the intended purpose of the apparatus.

- Video signal connecting cables
 Use double shielded coaxial cables, which are designed for 75-ohm type high-frequency applications, for
 SDI (Serial Digital Interface).
 Coaxial cables, which are designed for 75-ohm type high-frequency applications, are recommended for
- analog video signals.
 Audio signal connecting cables
 If your apparatus supports AES/EBU serial digital audio signals, use cables designed for AES/EBU.
 Use shielded cables, which provide guality performance for high-frequency transmission applications, for
- Use shielded cables, which provide quality performance for high-frequency transmission applications, for analog audio signals.
 Other connecting cables (IEEE1394, USB)
- Use shielded cables, which provide quality performance for high-frequency applications, as connecting cables.
- When connecting to the DVI signal terminal, use a cable with a ferrite core.
- If your apparatus is supplied with ferrite core(s), they must be attached on cable(s) following instructions in this manual.

3. Performance level

The performance level of the apparatus is equivalent to or better than the performance level required by these standards.

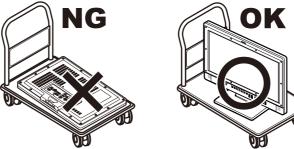
However, the apparatus may be adversely affected by interference if it is being used in an EMC environment, such as an area where strong electromagnetic fields are generated (by the presence of signal transmission towers, cellular phones, etc.). In order to minimize the adverse effects of the interference on the apparatus in cases like this, it is recommended that the following steps be taken with the apparatus being affected and with its operating environment:

- 1. Place the apparatus at a distance from the source of the interference.
- 2. Change the direction of the apparatus.
- 3. Change the connection method used for the apparatus.
- 4. Connect the apparatus to another power outlet where the power is not shared by any other appliances.

Transportation precautions

Do not try to lift the monitor by grabbing the LCD panel. NG

Do not place the monitor face down during transportation to prevent damaging it. Keep it upright.



Do not expose the LCD panel to strong pressure or pressure from pointed objects. Take care especially during transportation.

Exposing the LCD panel to strong pressure may result in blurring or other damage.

About this manual

- The BT-L2150P/2150E and the BT-L1500P/1500E is referred to as "the unit" in this manual.
- The images and diagrams used in this manual are for reference purposes and may differ from the actual product and displays.
- HDMI, the HDMI logo, and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.
- Adobe[®] Reader[®] is a trademark of Adobe Systems Incorporated.
- Page references are indicated as "(→ page 00)" in this manual.

Precautions for Use

- The LCD monitor is manufactured with high-precision technology and has an effective pixel count of over 99.99 %. However, less than 0.01 % of pixels may be stuck or dead in some cases. This is not a malfunction and has no effect on the recorded images.
- Wiping the protective panel with a hard cloth, or rubbing it vigorously will scratch the surface.
- If a still image is displayed for an extended period of time, it may generate a temporary afterimage (phosphor burn-in). (However, such images can be removed by displaying normal video for a while.)
- The response speed and brightness of liquid crystal vary with ambient temperatures.
- Do not install the unit in a place exposed to direct sunlight, as it may damage the cabinet and the LCD screen.
- Do not install the unit in locations where enough space cannot be provided around it as heat may build up inside preventing normal operation. Be sure to provide enough space around the unit.
- Exposing the LCD screen to intense light sources will impair its characteristics and lower image quality.
- In an environment exposed to drastic temperature fluctuations, condensation may build up on and inside the LCD screen. This may lower the quality of the screen and may damage it.
- Some video images may appear blurred on the screen.
- Leaving the unit in a location exposed to high temperature and humidity for an extended period of time may damage the LCD screen and cause blurring.
- Streaks of light may be seen in the area between the edge of the screen and the frame; this is normal and not a malfunction.
- The LCD panel is covered by a protective panel to protect it from damage during transportation. Remove the protective panel before use.
- This unit does not support VIERA Link. If the unit is connected to a VIERA-Link-compatible device via an HDMI cable, VIERA Link functions on the other device may not operate properly.

Contents

Read this first ! (for BT-L2150P/1500P)2Read this first ! (for BT-L2150E/1500E)4Transportation precautions6About this manual7Precautions for Use7Standard accessories8About PDF manuals8Opening the Operating Instructions8
Outline9
Dimensions 10
Controls and Their Functions
Video monitor unit 11
Front panel 12
Rear panel 13
Power Supply14
Connecting and fixing the power cable 14
Adjusting the Monitor Angle14
How to Use the On Screen Menu15
Input signal status 15
Picture adjusting buttons/VOLUME button status . 15
Sharpness display
Monu dianlay
Menu display
Closed caption (CC) display 16
Menu operations 17
Main Menu 18

Menu configuration	18
MARKER	18
MARKER types	19
VIDEO CONFIG	20
SYSTEM CONFIG	
GPI	21
INPUT SELECT	21
AUDIO	
DISPLAY SETUP	23
CONTROL	
HOURS METER	24
REMOTE Specifications	25
GPI terminal	25
Detaching and Attaching the Protective Panel	26
Detaching the panel	
Attaching the panel	
Detaching and Attaching the Tilt Stand	27
Detaching the tilt stand	
Attaching the tilt stand	
Maintenance Inspections	
Maintenance	
	50

40

Standard accessories

Power cable x 1 (BT-L2150P/1500P) Power cable x 2 (BT-L2150E/1500E) CD-ROM x 1

■ The following supplied accessories are preinstalled on the unit.

Protective panel x 1 Protective panel screws x 10 (BT-L2150P/BT-L2150E) Protective panel screws x 8 (BT-L1500P/BT-L1500E) Tilt stand x 1 Tilt stand screws x 4

Manage and an ending of the second se

• After removing the product from the package, discard the packaging material properly.

About PDF manuals

Supplied CD-ROM is provided with Operating Instructions which are in the form of a PDF(Portable Document Format) file.

- You need to have the Adobe[®] Reader[®] installed to open and view PDF files.
- Download the Adobe[®] Reader[®] properly to your computer from the Adobe web site(http://www.adobe.com/).
- Refer to the Help menu for details about Adobe[®] Reader[®].

Opening the Operating Instructions

- 1. Insert the CD-ROM disc into the CD-ROM drive.
- 2. If the software installation screen opens, click [Cancel] to cancel the installation. To open the CD-ROM, double-click the My Computer icon, rightclick the CD-ROM drive icon, and then click [Open] in the displayed shortcut menu.
- 3. Double-click on the [INDEX.pdf] file on the CD-ROM.
 - The Adobe[®] Reader[®] will start up, and a list of contents for the Operating Instructions will be displayed.
- 4. Click on a desired document name.
 - The Operating Instructions selected will open.

Outline

Designed especially for use in professional broadcasting, the BT-L2150P/2150E and the BT-L1500P/1500E come with a 54.6 cm (21.5-inch) and 39.1 cm (15.4-inch) wide LCD screen, respectively.

High performance panel

These monitors achieve outstanding color reproduction, a wide viewing angle, and high-speed response.

Multi-format image compatibility

- The monitors are equipped with SDI (HD/SD compatible), VIDEO, YP_BP_R, HDMI (HDCP compatible), PC input terminals.
- They support both NTSC and PAL TV broadcast systems.

A host of functions

Marker functions

Aspect marker, safe area marker, center marker and other markers can be displayed in both 16:9 and 4:3 aspect ratio.

• Selectable color temperature

Works with both 6,500 K and 9,300 K color temperatures.

The monitors will also allow you to set the white balance at either color temperature.

Blue-only function

This function removes the red and green components from the video signal.

• Audio monitoring function

Allows you to monitor audio signals embedded in SDI or HDMI signals or audio signals from the AUDIO IN terminal via speakers or headphones.

• Tally lamp

Equipped with the tally lamp (red, green, amber) on the front.

Each color LED can be turned on and off externally using a remote control.

Closed caption

During VIDEO (NTSC) input, this feature displays the closed caption information embedded in the video signal.(EIA-608 compliant)

External Remote Control

GPI (D-SUB 9-pin) remote input terminal enables operation from an external.

• Tilt stand

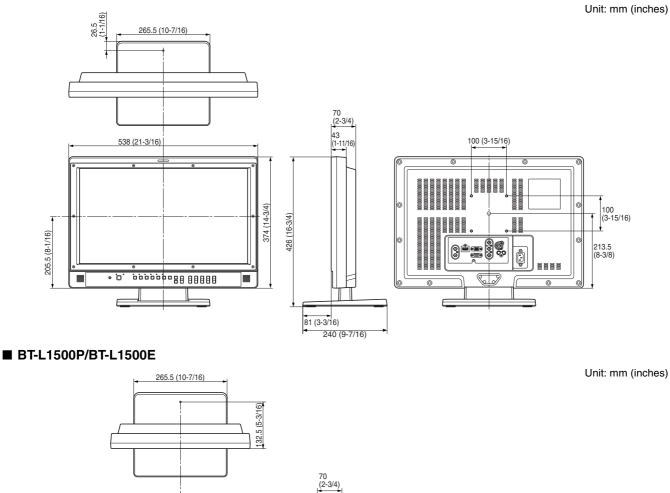
Monitor stand comes with tilt adjustment as standard.

This function allows you to tilt the monitor backward or forward for best viewing angle.

Dimensions

BT-L2150P/BT-L2150E

173 (6-13/16)



43 (1-11/16)

397 (15-5/8)

308.5 (12-1/8)

360.5 (14-3/16)

81 (3-3/16)

240 (9-7/16)

100 (3-15/16)

000000

 100 (3-15/16)

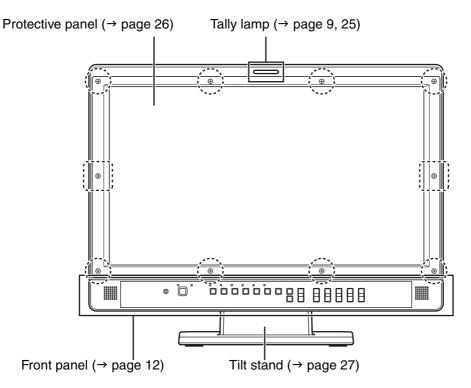
207 (8-1/8)

Controls and Their Functions

Video monitor unit

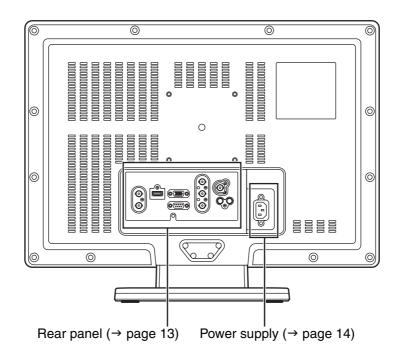
• The illustrations show examples of BT-L2150P/2150E.

Front

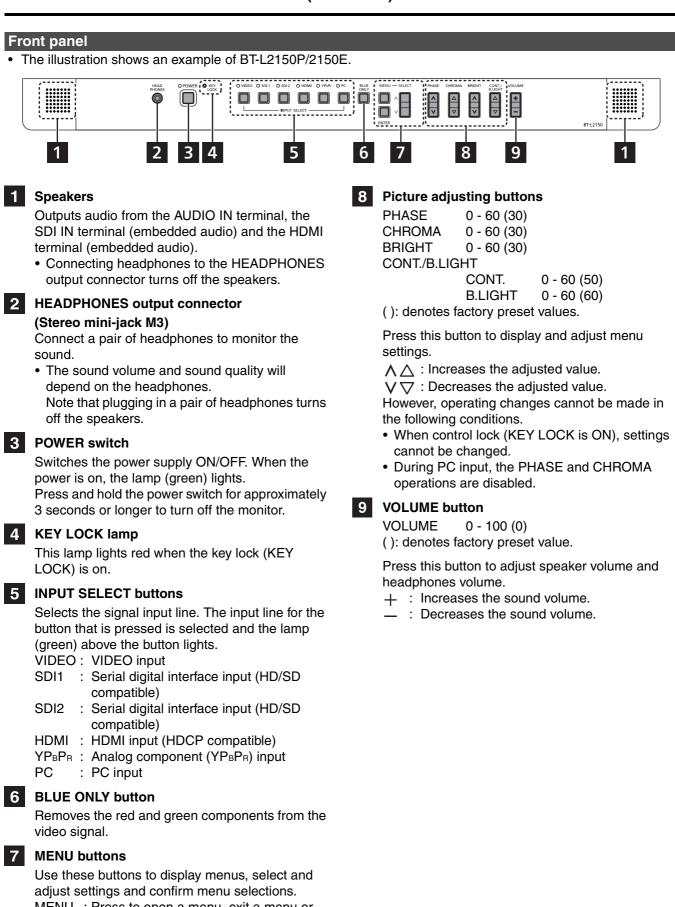


indicates the protective panel screw (10 screws for BT-L2150P/2150E, 8 for BT-L1500P/1500E).
 indicates screws found only on BT-L2150P/2150E (not present on BT-L1500P/1500E).

Rear



Controls and Their Functions (continued)



- MENU : Press to open a menu, exit a menu or return to a previous menu.
 - Moves the cursor upwards and selects items.
 - V : Moves the cursor downwards and selects items.

ENTER : Press to confirm a setting.

Controls and Their Functions (continued)

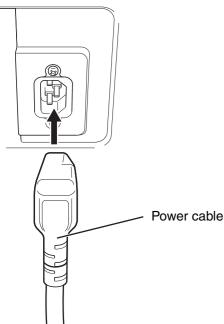
Rear panel

	6 7
1	 SDI IN (HD/SD) terminals (BNC) 1 : SDI input terminal (compatible with HD/SD automatic switching) 2 : SDI input terminal (compatible with HD/SD automatic switching) These terminals support embedded audio.
2	HDMI terminalHDCP compliant HDMI signal input terminalThis terminal supports embedded audio. It is not VIERA link compliant.
3	PC terminal Input terminal for RGB signal from a connected PC
4	YPBPR IN terminals (BNC) YPBPR signal input terminals
5	VIDEO IN terminal (BNC) VIDEO signal (composite signal) input terminal
6	GPI terminal (D-SUB 9-pin) External control is possible by using a GPI signal.
7	AUDIO IN terminals (pin jack)

Shared analog audio input terminals for all video input terminals.

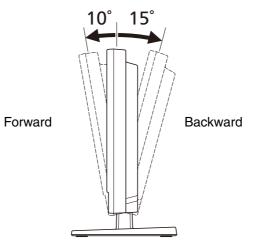
Connecting and fixing the power cable

- 1. Attach the power cable to the monitor unit.
- 2. Connect the power cable to the power outlet.



Adjusting the Monitor Angle

Tilt the unit toward the direction of the arrows to gain the monitor angle most fit for viewing.

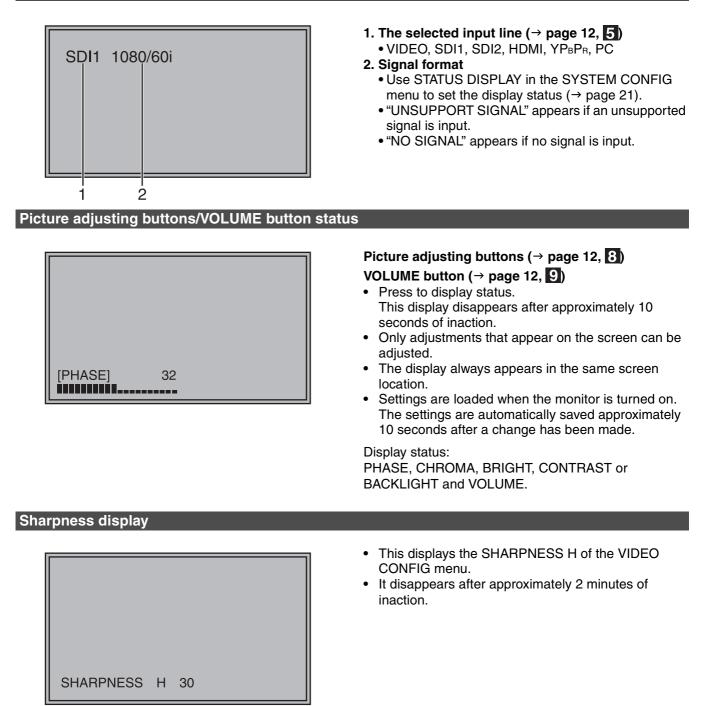


• The unit can be tilted up to 10 degrees forward and 15 degrees backward.

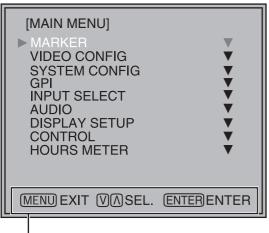
How to Use the On Screen Menu

The screen displays five types of information: input signal status, picture adjusting buttons/volume button status, sharpness display, menu display and closed caption display.

Input signal status



Menu display



Displays instructions on menu button operations.

Closed caption (CC) display

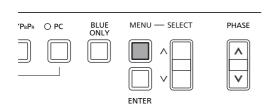
15 rows	CLOSED CAPTION Closed caption display area	
	32 columns	

- This is the menu display.
- It disappears after approximately 2 minutes of inaction.

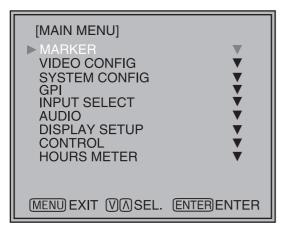
- Use the menu to display and set closed caption display for VIDEO (NTSC) signals. It also allows you to select CAPTION CHANNEL (CC1 to CC4).
- When video signals are input while CLOSED CAPTION is set to ON, marker and status displays are not available.

Menu operations

1. Press [MENU] to display the MAIN MENU.



2. Press $[\lor, \land]$ to select a menu and press [ENTER].



3. Press $[\lor, \land]$ to select a sub menu and press **[ENTER]**. The settings in the sub menu change to green.

[MARKER] ► MARKER OFF 16:9 4:3 4:3 OFF CENTER OFF CENTER OFF

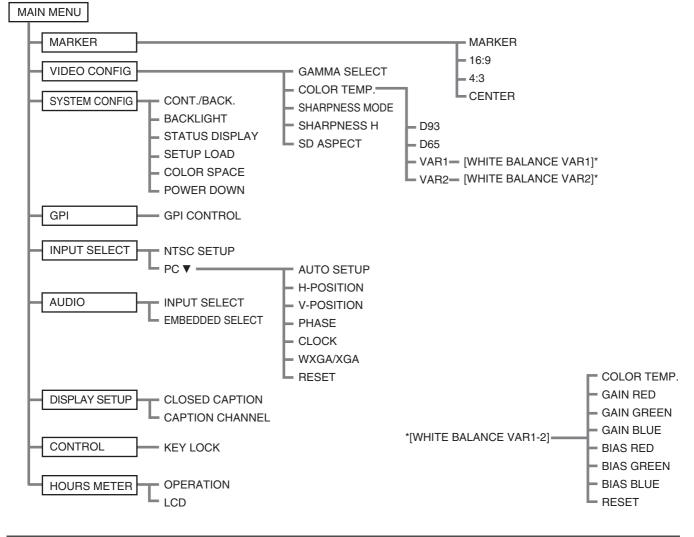
4. Press $[\lor, \land]$ to select a setting and press [ENTER].

To cancel, press [MENU].

[MARKER] ► MARKER 16:9 4:3 CENTER	ON 4:3 OFF OFF
MENU EXIT VASEL.	ENTER SET

To return to the previous screen, Press [MENU].

Menu configuration



MARKER

Underlined values indicate factory defaults.

Sub menu	Setting	Description	
MARKER ^{*1}	OFF ON	Turns the MARKER setting on and off.	
16:9 ^{*2}	OFF <u>4:3</u> 93%* ⁴ 88% ^{*4} 80%	Selects and displays marker type for 16:9 aspect ratio. <off>No marker display<4:3>4:3 marker<93%>93 % area marker<80%>80 % area marker</off>	
4:3 ^{*3}	OFF 93% 88% ^{*4} 80%	Selects and displays marker type for 4:3 aspect ratio. <off> No marker display <93%> 93 % area marker <80%> 80 % area marker <88%> 88 % area marker</off>	
CENTER	OFF ON	Displays the center marker. <off> No marker display <on> Displays the marker</on></off>	

*1 When CLOSED CAPTION is set to ON, this setting automatically turns to OFF.

*² This setting is enabled only for HD and SD signal input in 16:9 aspect ratio mode.

*³ This setting is enabled for SD signal input in 4:3 aspect ratio mode.

*4 The effective horizontal area of SD signals meets the EIA-RS170A standards for NTSC and ITU-R BT.470-4 standards for PAL.

MARKER types

16:9 marker

(Displayed for HD input and SD input in 16:9 aspect ratio)

Aspect marker is only displayed as a vertical bar.

The shaded areas are grey in the illustrations to indicate MARKER specifications, but are not grey on the screen.



4:3 aspect marker

Safe area marker

Safe area marker is displayed as a dotted line.





93 % safe area marker

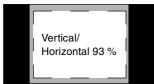
88 % safe area marker



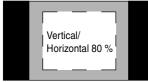
80 % safe area marker

4:3 marker

(Displayed for SD input in 4:3 aspect ratio) Safe area marker is displayed as a dotted line.



93 % safe area marker

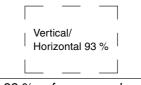


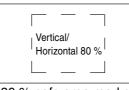
80 % safe area marker

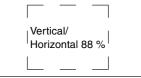


(Displayed for HD input and SD input in 16:9 aspect ratio)

Safe area marker is displayed as a dotted line.







93 % safe area marker



88 % safe area marker

80 % safe area marker

• You can display the 4:3 marker and the 16:9 marker simultaneously.

Simultaneous display example

The shaded areas are grey in the illustrations to indicate MARKER specifications, but are not grey on the screen.



For 16:9 : 93 % safe area marker For 4:3 : 80 % safe area marker

Center marker



Center marker This marker is displayed at the center of the screen.

VIDEO CONFIG

Underlined values indicate factory defaults.

Sub menu	Setting	Description
GAMMA SELECT ^{*1}	2.2 <u>2.35</u>	Selects gamma curve.<2.2>Selects the gamma 2.2 curve.<2.35>Selects the gamma 2.35 curve. (A mode that approximates CRT display capability.)
COLOR TEMP.	D93 <u>D65</u> VAR1 ^{*3} VAR2 ^{*3}	Selects color temperature. <d93>Equivalent to a color temperature of 9,300 K<d65>Equivalent to a color temperature of 6,500 K<var1>WB adjustment mode<var2>WB adjustment mode</var2></var1></d65></d93>
SHARPNESS MODE ^{*1}	HIGH ^{*2} LOW	Selects the width of outline correction edge. <high> Thin edge <low> Wide edge</low></high>
SHARPNESS H ^{*1}	0 to 30* ²	Sets horizontal outline correction. The item display moves to the lower part of the screen during adjustment.
SD ASPECT*1	<u>4:3</u> 16:9	Sets the aspect ratio for SD signal input.<4:3> 4:3 aspect ratio<16:9> 16:9 aspect ratio

^{*1} This function is not available when PC is selected in the INPUT SELECT menu (\rightarrow page 21).

*² The following sharpness values are available and the settings for the selected input signal is displayed.

Adjustment status during selection appears at the bottom right of the screen.

1) VIDEO system input (VIDEO) (the factory defaults are SHARPNESS MODE: LOW and SHARPNESS H: 0)

2) HD for input other than VIDEO (the factory defaults are SHARPNESS MODE: HIGH and SHARPNESS H: 0).

3) SD for input other than VIDEO (the factory defaults are SHARPNESS MODE: LOW and SHARPNESS H: 0).

^{*3} Selecting VAR1, VAR2 engages the WB adjustment mode (\rightarrow see below).

WB Adjustment Mode

Select VAR1 and VAR2 for COLOR TEMP. in the VIDEO CONFIG menu to make WHITE BALANCE VAR1 and WHITE BALANCE VAR2 (WB) adjustments.

Underlined values indicate factory defaults.

Sub menu	Setting	Description
COLOR TEMP.*4	D93 <u>D65</u>	Selects the color temperature that will become the basis for adjustment. <d93> Equivalent to a color temperature of 9,300 K <d65> Equivalent to a color temperature of 6,500 K</d65></d93>
GAIN RED*5	0 - 1023	Adjusts the GAIN elements for RED.
GAIN GREEN*5	(Factory defaults are	Adjusts the GAIN elements for GREEN.
GAIN BLUE ^{*5}	 color temperature <d65> values.)</d65> These are the adjustments made before shipment from the factory. 	Adjusts the GAIN elements for BLUE.
BIAS RED*5	-512 to 511	Adjusts the BIAS elements for RED.
BIAS GREEN *5	(Factory default: 0)	Adjusts the BIAS elements for GREEN.
BIAS BLUE*5		Adjusts the BIAS elements for BLUE.
RESET		Resets GAIN RED - BIAS BLUE to color temperature values selected under COLOR TEMP.

*4 Selecting COLOR TEMP. and pressing [ENTER] after making a change, opens a confirmation screen. Selecting YES and pressing [ENTER] in this screen resets selected GAIN and BIAS values to the selected color temperature values.

*5 The item display moves to the lower part of the screen during adjustment.

SYSTEM CONFIG

Underlined values indicate factory defaults.

Sub menu	Setting	Description
CONT./BACK.	BACKLIGHT CONTRAST	Selects function to be assigned to the CONT./B.LIGHT front panel buttons. <backlight> Adjusts the B.LIGHT (backlight). <contrast> Adjusts the CONT. (contrast).</contrast></backlight>
BACKLIGHT	0 to <u>60</u>	Adjusts LCD backlight brightness. Adjust as required by ambient conditions.
STATUS DISPLAY	CONTINUE <u>3SEC OFF</u> OFF	Sets display state for input signal status (on-screen menu). <continue> Displayed at all times. <3SEC OFF> Displayed for approximately 3 seconds after a status change. <off> Not displayed.</off></continue>
SETUP LOAD	FACTORY	Loads saved factory defaults (FACTORY).
COLOR SPACE	<u>SMPTE-C</u> *1 <u>EBU</u> *2 ITU-709 ^{*3}	Sets the studio standard color shade.
POWER DOWN	OFE ON	Selects whether monitor power shuts off (POWER DOWN) when no operation has taken place for a preset period of time and no input signal is present. <off> Disables POWER DOWN. <on> Enables POWER DOWN.</on></off>

*1 Factory default setting for the BT-L2150P/1500P.
*2 Factory default setting for the BT-L2150E/1500E.
*3 ITU-709 is an ITU-R BT.709 standard.

GPI

Enables and disables all GPI functions enabled by GPI CONTROL.

Underlined values indicate factory defaults.

Sub menu	Setting	Description
GPI CONTROL	<u>DISABLE</u> ENABLE	Enables and disables GPI functions <disable> Disabled <enable> Enabled</enable></disable>

INPUT SELECT

Underlined values indicate factory defaults.

Sub menu	Setting	Description
NTSC SETUP	75 <u>00</u>	 Selects NTSC setup level. <75> Select this function when using 7.5 % setup signals. (Adjusts the interior of the monitor to the 7.5 % setup level to suit the black level) <00> Select this when there is no setup signal.
PC	•	Performs analog PC settings.(PC \rightarrow page 22)

■ PC

The menus shown below appear when PC is selected as the input signal.

Underlined values indicate factory defaults.

Sub menu	Setting	Description
AUTO SETUP*1		Automatically adjusts the screen when PC is selected as the input signal. A separate screen opens. Select YES to perform AUTO SETUP.
H-POSITION*2	0 to 60 (Factory default setting: 30)	Adjusts horizontal image display position.
V-POSITION*2	0 to 60 (Factory default setting: 30)	Adjusts vertical image display position.
PHASE*2	0 to 31 (Factory default setting: 16)	Adjusts the clock phase in 1/32 clock period increments.
CLOCK ^{*2}	<bt-l2150p 2150e=""> 700 - 2200 <bt-l1500p 1500e=""> 700 - 1800 (Factory preset settings:*³)</bt-l1500p></bt-l2150p>	Adjusts the sampling clock in dot units.
WXGA/XGA	XGA WXGA	Switches between WXGA and XGA.
RESET		Returns H-POSITION, V-POSITION, PHASE and CLOCK settings in the PC input compliant format to their factory defaults.

*1 "EXECUTING" is displayed during AUTO SETUP and "COMPLETE" appears when setup completes. "INCOMPLETE" is displayed if setup could not be completed.

AUTO SETUP may not provide adequate automatic screen adjustments in all cases. Use H-POSITION, V-POSITION, PHASE and CLOCK to adjust.

 $^{\star 2}\,$ You can make adjustments for each input format

*³ Factory default values of CLOCK

Format	CLOCK	Format	CLOCK
640 x 400 (70 Hz)	800	1024 x 768 (70 Hz)	1328
640 x 480 (60 Hz)	800	1024 x 768 (75 Hz)	1312
640 x 480 (75 Hz)	840	1280 x 768 (60 Hz)	1664
800 x 600 (60 Hz)	1056	1280 x 800 (60 Hz)	1680
800 x 600 (75 Hz)	1056	1280 x 1024 (60 Hz)	1688 ^{*4}
1024 x 768 (60 Hz)	1344		

*4 Used for BT-L2150P/2150E

AUDIO

Sets speaker and headphones output.

Underlined values indicate factory defaults.

Sub menu	Setting	Description
INPUT SELECT	<u>AUTO</u> ANALOG	Selects speaker and headphones output. <auto> When an SDI input line is selected with the INPUT SELECT button on the front panel: embedded audio (SDI IN terminal) When an HDMI input line is selected with the INPUT SELECT button on the front panel: embedded audio (HDMI terminal) When input lines other than SDI or HDMI are selected with the INPUT SELECT button on the front panel: analog (AUDIO IN terminal) <analog> Analog (AUDIO IN terminal)</analog></auto>
EMBEDDED SELECT ^{*1}	CH7 - CH8 CH5 - CH6 CH3 - CH4 <u>CH1 - CH2</u>	Selects embedded audio CH to output to the speakers or head- phones. <ch7 -="" ch8=""> Outputs CH7 to the left channel and CH8 to the right channel<ch5 -="" ch6=""> Outputs CH5 to the left channel and CH6 to the right channel<ch3 -="" ch4=""> Outputs CH3 to the left channel and CH4 to the right channel<ch1 -="" ch2=""> Outputs CH1 to the left channel and CH2 to the right channel</ch1></ch3></ch5></ch7>

^{*1} When an HDMI signal is selected, CH1 is output to the left channel and CH2 to the right channel.

DISPLAY SETUP

Underlined values indicate factory defaults.

Sub menu	Setting	Description
CLOSED CAPTION*2*3	OFE ON	Enables closed captions display.
CAPTION CHANNEL* ²	CC4 CC3 CC2 <u>CC1</u>	Selects the closed caption display channel.

*2 Available during VIDEO (NTSC) input.
 *3 When MARKER is set to ON, this setting automatically turns to OFF.

CONTROL

Underlined values indicate factory defaults.

Sub menu	Setting	Description
KEY LOCK*4	<u>OFF</u> ON	Selects operation (also locks control). <OFF> Enables front panel operation <ON> Disables the front panel operations other than POWER switch, MENU buttons (MENU, Λ , \vee , ENTER), or VOLUME button

*4 Only KEY LOCK is enabled when the key lock is engaged.

The picture adjusting buttons are disabled when the lock is engaged.

The KEY LOCK lamp on the front panel is on when the lock is engaged.

HOURS METER				
Sub menu	Settings	Description		
OPERATION	XXXXXXh*1	Displays the total number of hours it has been on.		
LCD	XXXXXXh*1	Displays the number of hours that the backlight has been on.		
±1				

*1 "XXXXXX" indicates the number of hours.

"XXXXXX": 175200h (about 20 years), 175200 or greater number results in "OVER".

■ List of setting restrictions (√: Can be set and is available)

			SDI 1/2			HDMI		YP _B P _R		
		VIDEO	SD	HD	640 x 480	SD	HD	SD	HD	PC
	MARKER	\checkmark	\checkmark	\checkmark	√*3	\checkmark	\checkmark	\checkmark	\checkmark	√*3
	16:9	\checkmark	\checkmark	\checkmark	√* 3	\checkmark	\checkmark	\checkmark	\checkmark	√* 3
MARKER	4:3	\checkmark	\checkmark	\checkmark	√* 3	\checkmark	\checkmark	\checkmark	\checkmark	√* 3
	CENTER	\checkmark	\checkmark	\checkmark	√* 3	\checkmark	\checkmark	\checkmark	\checkmark	√* 3
	GAMMA SELECT	\checkmark	\checkmark	\checkmark		\checkmark	\checkmark	\checkmark	\checkmark	
	COLOR TEMP.	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
VIDEO CONFIG	SHARPNESS MODE	\checkmark	\checkmark	\checkmark		\checkmark	\checkmark	\checkmark	\checkmark	
	SHARPNESS H	\checkmark	\checkmark	\checkmark		\checkmark	\checkmark	\checkmark	\checkmark	
	SD ASPECT	\checkmark	\checkmark	√* 3		\checkmark	√* 3	\checkmark	√* 3	
INPUT SELECT	NTSC SETUP	√* ²	√* 3	√* 3	√* 3	√* 3	√* 3	√* 3	√* 3	√* 3
INFOT SELECT	PC									\checkmark
AUDIO	INPUT SELECT	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
AUDIO	EMBEDDED SELECT	√* 3	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	√* 3	√* 3	√* 3
DISPLAY	CLOSED CAPTION	√*2	√* ³	√* 3	√* 3	√* 3	√* ³	√* 3	√* 3	√* 3
SETUP	CAPTION CHANNEL	√*2	√* ³	√* 3	√* 3	√* 3	√* ³	√* 3	√* 3	√* ³
	PHASE	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	
	CHROMA	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	
Picture adjustment	BRIGHT	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
adjustitient	CONT.	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
	B.LIGHT	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark

*2 Enabled during NTSC format input
 *3 Can be set but is not available.

REMOTE Specifications

This monitor permits remote operation from an external.

GPI terminal

GPI screen items correspond to the following terminals. The functions assigned to each terminal operate when GND (pin 5) is short-circuited (ON) or open (OFF).

$ \left \begin{array}{cccccccccccccccccccccccccccccccccccc$
GPI terminals (9P)

Pin	Signal
1	GPI1
2	GPI2
3	GPI3
4	GPI4
5	GND
6	GPI5
7	GPI6
8	GPI7
9	GPI8

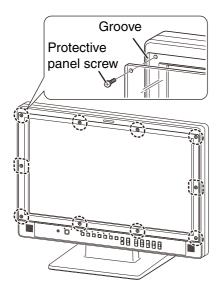
- Operating conditions Level operation: Operates when GND is shortcircuited.
 - Edge operation: Operates when GND changes from open to short-circuited.
 - Edge operation should be maintained for approximately 0.2 s or more after a change.

Terminal	Assigned item	Function	Operating conditions
GPI1	INPUT SEL. VIDEO	Switches the input line to VIDEO.	Edge operation
GPI2	INPUT SEL. SDI1	Switches the input line to SDI1.	Edge operation
GPI3	INPUT SEL. SDI2	Switches the input line to SDI2.	Edge operation
GPI4	INPUT SEL. HDMI	Switches the input line to HDMI.	Edge operation
GPI5	INPUT SEL. YPBPR	Switches the input line to YP _B P _R .	Edge operation
GPI6	INPUT SEL. PC	Switches the input line to PC.	Edge operation
GPI7	R-TALLY*1	Lights the red tally lamp.	Level operation (Short-circuited: ON, Open: OFF)
GPI8	G-TALLY*1	Lights the green tally lamp.	Level operation (Short-circuited: ON, Open: OFF)

 $^{\star1}~$ When R-TALLY and G-TALLY simultaneously go on, the tally lamp's color changes to amber.

Detaching and Attaching the Protective Panel

The LCD panel is covered by a protective panel to protect it from damage during transportation. Remove the protective panel before use.



• The illustration shows an example for BT-L2150P/2150E.

indicates screws found only on BT-L2150P/ 2150E (not present on BT-L1500P/1500E)

Detaching the panel

1. Unscrew the protective panel screws (10 screws for BT-L2150P/2150E, 8 for BT-L1500P/1500E) using a Phillips screwdriver while supporting the protective panel with your hand.

2. Detach the protective panel.

• After detaching, please store the protective panel and the protective panel screws.

Attaching the panel

Verify the top and bottom of the protective panel before attaching.

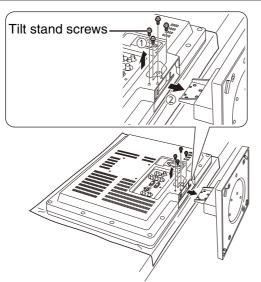
- 1. Align the screw holes on the protective panel with those on the unit.
 - Fit the protective panel into the groove on the unit.
- 2. Using a Phillips screwdriver, screw the protective panel screws (10 screws for BT-L2150P/2150E, 8 for BT-L1500P/1500E) to screw the protective panel to the unit.
- The protective panel may crack if it is screwed too tight. (Screwing torque: Tighten to about 30 N cm or less)

Detaching and Attaching the Tilt Stand

The tilt stand is detachable.

• When detaching and attaching the protective panel, it is recommended that you place the unit flat on the edge of a desk or table with a soft cloth or similar material spread underneath.

Detaching the tilt stand

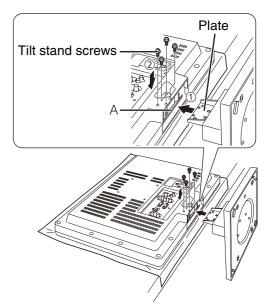


- The illustration shows an example for BT-L2150P/ 2150E.
- 1. Unscrew the tilt stand screws (four) using a Phillips screwdriver.

2. Detach the tilt stand.

• After detaching, please store the tilt stand and the tilt stand screws.

Attaching the tilt stand



- The illustration shows an example for BT-L2150P/ 2150E.
- 1. Attach the tilt stand to the unit.
 - Insert the plate of the tilt stand into part A (illustrated) of the monitor unit.
- 2. Screw the tilt stand to the unit by screwing the tilt stand screws (four) using a Phillips screwdriver. (Screwing torque: Tighten to about 100 N cm or more)

Maintenance Inspections

Maintenance inspections through periodic and appropriate maintenance are essential to keep the monitor in optimum condition and ensure safe operation. Be sure to conduct the following maintenance inspections to enable long-term and full use of all its functions.

Necessity of periodic maintenance service

The backlight in the LCD panel is a consumable component that deteriorates over time leading to gradual loss of performance that could eventually result in a malfunction.

Conventional after-sales service that replaces parts when they break down should therefore be combined with a regularly conducted comprehensive service to maintain normal operation and prevent unforeseen breakdown of consumables.

Maintenance

- Clean the cabinet and protective panel by gently wiping them with a soft cloth.
 To remove stubborn soiling, use a cloth dampened in a weak neutral detergent solution and thoroughly wrung out. Then wipe with a dry cloth. Any moisture entering the monitor could damage it.
- Do not use benzene, thinner and similar solvents for cleaning. They could discolor the surface and cause the paint to peel.
- Do not directly expose the monitor to spray cleaning. Any moisture entering the monitor could damage it.

Specifications

General

Power input

<BT-L2150P/2150E> Power supply Current consumption AC: 100 V - 240 V, 50/60 Hz 0.60 A - 0.30 A <BT-L1500P/1500E> Power supply Current consumption AC: 100 V - 240 V, 50/60 Hz 0.50 A - 0.25 A

indicates safety information.

Dimensions (W x H x D):

<BT-L2150P/2150E> 538 mm x 426 mm x 240 mm (21-3/16 inches x 16-3/4 inches x 9-7/16 inches) (including tilt stand) 538 mm x 374 mm x 70 mm (21-3/16 inches x 14-3/4 inches x 2-3/4 inches) (monitor only, not including tilt stand) <BT-L1500P/1500E> 397 mm x 360.5 mm x 240 mm (including tilt stand) (15-5/8 inches x 14-3/16 inches x 9-7/16 inches) 397 mm x 308.5 mm x 70 mm (15-5/8 inches x 12-1/8 inches x 2-3/4 inches) (monitor only, not including tilt stand)

Mass:

<BT-L2150P/2150E> Approx. 7.5 kg (16.53 lb) (including tilt stand) Approx. 6.0 kg (13.23 lb) (monitor only, not including tilt stand) <BT-L1500P/1500E> Approx. 5.4 kg (11.9 lb) (including tilt stand)

Approx. 3.9 kg (8.6 lb) (monitor only, not including tilt stand)

Operating temperature: 5 °C to 35 °C (41 °F to 95 °F) Operating humidity: 20 % to 80 % (no condensation) Storage temperature: - 20 °C to 60 °C (-4 °F to 140 °F)

Display panel

<BT-L2150P/2150E> Dimensions: 54.6 cm (21.5-inch) (effective screen area) Aspect ratio: 16:9 Number of pixels: 1920 x 1080 (FULL HD) Display colors: Approx. 16,700,000 colors View angle (contrast > 10:1): 160° up/down, 170° right/left <BT-L1500P/1500E> Dimensions: 39.1 cm (15.4-inch) (effective screen area) Aspect ratio: 16:10 Number of pixels: 1280 x 800 (WXGA) Display colors: Approx. 16,200,000 colors View angle (contrast > 10:1): 140° up/down, 160° right/left

Input/output Connectors

Video signal input: **VIDEO IN terminal:** 1 input, BNC x 1 YP_BP_R IN terminal (Analog component): 1 input, BNC x 3 SDI IN (HD/SD) terminals: SMPTE274M/296M/259M-C/ ITU-R BT.656-4 compliant 2 inputs, BNC x 2 HDMI terminals: 1 input, HDMI terminal x 1 (TYPE A) HDCP compatible, not VIERA LINK compatible PC terminal: 1 input, D-SUB, 15-pin x 1 <BT-L2150P/2150E> Vertical frequency: 60.0 Hz - 75.0 Hz Horizontal frequency: 31.5 kHz - 64.0 kHz Dot clock: 25 MHz - 108 MHz <BT-L1500P/1500E> Vertical Frequency: 60.0 Hz - 75.0 Hz Horizontal frequency: 31.5 kHz - 60.0 kHz Dot clock: 25 MHz - 83.5 MHz HD/VD signal level: TTL level Audio input: SDI IN (HD/SD) terminals: EMBEDDED AUDIO HD - SDI: SMPTE299M compliant Sampling rate: 48 kHz, synchronous/asynchronous, 8 ch SD - SDI: SMPTE272M compliant Sampling rate: 48 kHz, synchronous, 4 ch HDMI terminal: EMBEDDED AUDIO AUDIO IN terminal (Analog audio input): Pin jack x 2 (stereo) Input level 0.5 Vrms Speaker output: 0.5 W + 0.5 W Headphone output: Stereo minijack M3 x 1, 32 Ω adjustable level GPI terminal: D-SUB, 9-pin x 1

Inrush current, measured according to European standard EN55103-1: 11.0 A

■ List of compatible signal formats(√:Compatible)

Input signal	Display character example	VIDEO	SDI1	SDI2	НДМІ	ϒΡ _Β Ρ _R	PC
NTSC	NTSC	\checkmark					
PAL	PAL	\checkmark					
640 x 480/59.94p	640 x 480 (60p)				\checkmark		
640 x 480/60p	640 x 480 (60p)				\checkmark		
480/59.94i	480/60i		\checkmark	\checkmark		\checkmark	
480/59.94p	480/60p				\checkmark	\checkmark	
576/50i	576/50i		\checkmark	\checkmark		\checkmark	
576/50p	576/50p				\checkmark	\checkmark	
720/50p	720/50p		\checkmark	\checkmark	\checkmark	\checkmark	
720/59.94p	720/60p		\checkmark	\checkmark	\checkmark	\checkmark	
720/60p	720/60p		\checkmark	\checkmark	\checkmark	\checkmark	
1080/23.98PsF	1080/24PsF		\checkmark	\checkmark		\checkmark	
1080/24PsF	1080/24PsF		\checkmark	\checkmark		\checkmark	
1080/25PsF	1080/50i		\checkmark	\checkmark		\checkmark	
1080/23.98p	1080/24p		\checkmark	\checkmark	\checkmark	\checkmark	
1080/24p	1080/24p		\checkmark	\checkmark	\checkmark	\checkmark	
1080/25p	1080/25p		\checkmark	\checkmark	\checkmark	\checkmark	
1080/29.97p	1080/30p		\checkmark	\checkmark	\checkmark	\checkmark	
1080/30p	1080/30p		\checkmark	\checkmark	\checkmark	\checkmark	
1080/50i	1080/50i		\checkmark	\checkmark	\checkmark	\checkmark	
1080/50p	1080/50p				\checkmark	\checkmark	
1080/59.94i	1080/60i		\checkmark	\checkmark	\checkmark	\checkmark	
1080/60i	1080/60i		\checkmark	\checkmark	\checkmark	\checkmark	
1080/59.94p	1080/60p				\checkmark	\checkmark	
1080/60p	1080/60p				\checkmark	\checkmark	
640 x 400 (70 Hz)	640 x 400(70 Hz)						\checkmark
640 x 480 (60 Hz)	640 x 480(60 Hz)						\checkmark
640 x 480 (75 Hz)	640 x 480(75 Hz)						\checkmark
800 x 600 (60 Hz)	800 x 600(60 Hz)						\checkmark
800 x 600 (75 Hz)	800 x 600(75 Hz)						\checkmark
1024 x 768 (60 Hz)	1024 x 768(60 Hz)						\checkmark
1024 x 768 (70 Hz)	1024 x 768(70 Hz)						\checkmark
1024 x 768 (75 Hz)	1024 x 768(75 Hz)						\checkmark
1280 x 768 (60 Hz)	1280 x 768(60 Hz)						\checkmark
1280 x 800 (60 Hz)	1280 x 800(60 Hz)						\checkmark
1280 x 1024 (60 Hz)	1280 x 1024(60 Hz)						√*1

 $^{\star1}\,$ Not supported by the BT-L1500P/1500E. "UNSUPPORT SIGNAL" appears."

Weight and dimensions when shown are approximately. Specifications are subject to change without notice.

INDEX

Numerics
16:9
4:3
A.
Accessories
Adjusting angle14
Aspect marker19
AUDIO
AUDIO IN terminals
B
BACKLIGHT
BIAS BLUE
BIAS GREEN20
BIAS RED20
BLUE ONLY button12
C
CAPTION CHANNEL
CENTER
CLOCK
CLOSED CAPTION
COLOR SPACE
COLOR TEMP20
CONT./BACK
CONTROL
D
Dimensions
E
EMBEDDED SELECT
G
GAIN BLUE
GAIN BLOE
GAIN RED
GAMMA SELECT
GPI21
GPI CONTROL
GPI terminal
H
HDMI terminal
HOURS METER
H-POSITION
1
INPUT SELECT
INPUT SELECT buttons
Input signal15
K
KEY LOCK
KEY LOCK lamp
L
LCD
M
Maintenance
Maintenance inspections
Types
Menu
Configuration
Display16
Operations
MENU buttons12

Ν
NTSC SETUP
0
OPERATION
PC terminal
PHASE
Picture adjusting buttons 12, 15
POWER DOWN
Power Supply14
POWER switch
Protective panel
R
REMOTE
RESET
S
Safe area marker
SD ASPECT
SDI IN (HD/SD) terminals
SETUP LOAD
Sharpness
SHARPNESS H
SHARPNESS MODE
Speakers
Specifications
STATUS DISPLAY
SYSTEM CONFIG21
Т
Tilt stand
V
VIDEO CONFIG
VIDEO IN terminal
VOLUME button
V-POSITION
W
WB adjustment mode
WXGA/XGA
Y
YPBPR IN terminals13

MEMO

Information on Disposal for Users of Waste Electrical & Electronic Equipment (private households)



This symbol on the products and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste.

For proper treatment, recovery and recycling, please take these products to designated collection points, where they will be accepted on a free of charge basis. Alternatively, in some countries you may be able to return your products to your local retailer upon the purchase of an equivalent new product.

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