SONY

4-451-638-**12** (1)

Professional Video Monitor

Operating Instructions

Before operating the unit, please read this manual thoroughly and retain it for future reference.

PVM-X300

Software Version 1.1

TRIMASTER 4K HDMI

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Owner's Record

The model and serial numbers are located at the rear. Record these numbers in the spaces provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No._____
Serial No._____

Important Safety Instructions

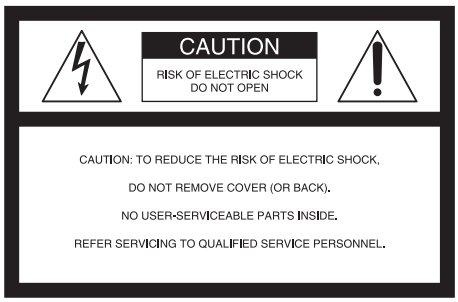
- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 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.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- 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.

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

To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

THIS APPARATUS MUST BE EARTHED.



This symbol 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.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING

When installing the unit, incorporate a readily accessible disconnect device in the fixed wiring, or connect the power plug to an easily accessible socket-outlet near the unit. If a fault should occur during operation of the unit, operate the disconnect device to switch the power supply off, or disconnect the power plug.

When installing the installation space must be secured in consideration of the ventilation and service operation.

- Do not block the ventilation slots, and vents of the fans.
- Leave a space around the unit for ventilation.
- Leave more than 40 cm of space in the rear of the unit to secure the operation area.

When the unit is installed on the desk or the like, leave at least 10 cm of space in the top side. Leaving 40 cm or more of space in the rear of the unit is recommended for service operation.

CAUTION
The apparatus shall not be exposed to dripping or splashing. No objects filled with liquids, such as vases, shall be placed on the apparatus.

CAUTION
The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.

WARNING
Excessive sound pressure from earphones and headphones can cause hearing loss.
In order to use this product safely, avoid prolonged listening at excessive sound pressure levels.

For kundene i Norge
Dette utstyret kan kobles til et IT-strømfordelingssystem.

Apparatet må tilkoples jordet stikkontakt

Suomessa asuville asiakkaille
Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan

För kunderna i Sverige
Apparaten skall anslutas till jordat uttag

For the customers in the U.S.A.
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.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

All interface cables used to connect peripherals must be shielded in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

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.

WARNING: THIS WARNING IS APPLICABLE FOR USA ONLY.
If used in USA, use the UL LISTED power cord specified below.
DO NOT USE ANY OTHER POWER CORD.

Plug Cap	Parallel blade with ground pin (NEMA 5-15P Configuration)
Cord	Type SJT or SVT, three 16 or 18 AWG wires
Length	Minimum 1.5 m (4 ft 11 in), Less than 2.5 m (8 ft 3 in)
Rating	Minimum 10A, 125V

Using this unit at a voltage other than 120V may require the use of a different line cord or attachment plug, or both. To reduce the risk of fire or electric shock, refer servicing to qualified service personnel.

WARNING: THIS WARNING IS APPLICABLE FOR OTHER COUNTRIES.
1. Use the approved Power Cord (3-core mains lead) / Appliance Connector / Plug with earthing-contacts that conforms to the safety regulations of each country if applicable.
2. Use the Power Cord (3-core mains lead) / Appliance Connector / Plug conforming to the proper ratings (Voltage, Ampere).

If you have questions on the use of the above Power Cord / Appliance Connector / Plug, please consult a qualified service personnel.

For the customers in Canada
This Class A digital apparatus complies with Canadian ICES-003.

For the customers in Europe
This product with the CE marking complies with the EMC Directive issued by the Commission of the European Community.
Compliance with this directive implies conformity to the following European standards:
- EN55103-1 : Electromagnetic Interference(Emission)
- EN55103-2 : Electromagnetic Susceptibility(Immunity)

This product is intended for use in the following Electromagnetic Environments: E4 (controlled EMC environment, ex. TV studio).

Manufacturer: Sony Corporation, 1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan

For EU product compliance: Sony Deutschland GmbH, Hedelfinger Strasse 61, 70327 Stuttgart, Germany

This apparatus shall not be used in the residential area.

For the customers in Europe, Australia and New Zealand

WARNING

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

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Precaution

On Safety

- Operate the unit only with a power source as specified in the “Specifications” section.
- A nameplate indicating operating voltage, power consumption, etc., is located on the rear panel.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Do not drop or place heavy objects on the power cord. If the power cord is damaged, turn off the power immediately. It is dangerous to use the unit with a damaged power cord.
- Unplug the unit from the wall outlet if it is not to be used for several days or more.
- Disconnect the power cord from the AC outlet by grasping the plug, not by pulling the cord.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.

On Installation

- Allow adequate air circulation to prevent internal heat build-up.
  Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.
- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.

Handling the LCD Screen

- The LCD panel fitted to this unit is manufactured with high precision technology, giving a functioning pixel ratio of at least 99.99%. Thus a very small proportion of pixels may be “stuck”, either always off (black), always on (red, green, or blue), or flashing. In addition, over a long period of use, because of the physical characteristics of the liquid crystal display, such “stuck” pixels may appear spontaneously. These problems are not a malfunction.
- Do not leave the LCD screen facing the sun as it can damage the LCD screen. Take care when you place the unit by a window.
- Do not push or scratch the LCD monitor’s screen. Do not place a heavy object on the LCD monitor’s screen. This may cause the screen to lose uniformity.
- If the unit is used in a cold place, horizontal lines or a residual image may appear on the screen. This is not a malfunction. When the monitor becomes warm, the screen returns to normal.
- If a fixed picture such as a frame of a divided picture or time code, or a still picture is displayed for a long time, an image may remain on the screen and be superimposed as a ghosting image.
- The screen and the cabinet become warm during operation. This is not a malfunction.

On Burn-in

For LCD panel, permanent burn-in may occur if still images are displayed in the same position on the screen continuously, or repeatedly over extended periods.

Images that may cause burn-in
- Masked images with aspect ratios other than 17:9
- Color bars or images that remain static for a long time
- Character or message displays that indicate settings or the operating state

To reduce the risk of burn-in

- Turn off the character displays.
  Press the MENU button to turn off the character displays. To turn off the character displays of the connected equipment, operate the connected equipment accordingly. For details, refer to the operation manual of the connected equipment.
- Turn off the power when not in use.
  Turn off the power if the monitor is not to be used for a prolonged period of time.

On a Long Period of Use

Due to the characteristics of LCD panel, displaying static images for extended periods, or using the unit repeatedly in a high temperature/high humidity environments may cause image smearing, burn-in, areas of which brightness is permanently changed, lines, or a decrease in overall brightness.

In particular, continued display of an image smaller than the monitor screen, such as in a different aspect ratio, may shorten the life of the unit.
Avoid displaying a still image for an extended period, or using the unit repeatedly in a high temperature/high humidity environment such an airtight room, or around the outlet of an air conditioner.

To prevent any of the above issues, we recommend reducing brightness slightly, and to turn off the power whenever the unit is not in use.

On Cleaning

Before cleaning

Be sure to disconnect the AC power cord from the AC outlet.

On cleaning the monitor screen

The monitor screen surface is especially treated to reduce reflection of light.
As incorrect maintenance may impair the performance of the monitor, take care with respect to the following:

- Wipe the screen gently with a soft cloth such as a cleaning cloth or glass cleaning cloth.
- Stubborn stains may be removed with a soft cloth such as a cleaning cloth or glass cleaning cloth lightly dampened with water.
- Never use solvent such as alcohol, benzene or thinner, or acid, alkaline or abrasive detergent, or chemical cleaning cloth, as they will damage the screen surface.

On cleaning the cabinet

- Clean the cabinet gently with a soft dry cloth. Stubborn stains may be removed with a cloth lightly dampened with mild detergent solution, followed by wiping with a soft dry cloth.
- Use of alcohol, benzene, thinner or insecticide may damage the finish of the cabinet or remove the indications on the cabinet. Do not use these chemicals.
- If you rub on the cabinet with a stained cloth, the cabinet may be scratched.
- If the cabinet is in contact with a rubber or vinyl resin product for a long period of time, the finish of the cabinet may deteriorate or the coating may come off.

On Dew Condensation

If the monitor is moved suddenly from a cold place to a warm place, or used in a room with high humidity, water droplets may form on the interior of the product. This phenomenon is known as dew condensation.
This product does not come with a feature that warns users of dew condensation. If water droplets are found on the casing, turn off the power, and wait until the condensation disappears before using.

On Repacking

Do not throw away the carton and packing materials. They make an ideal container which to transport the unit.

Disposal of the Unit

Do not dispose of the unit with general waste.

Do not include the monitor with household waste. When you dispose of the monitor, you must obey the law in the relative area or country.

On Fan Error

The fan for cooling the unit is built in. When the fan stops and the ⏻ (standby) switch indicator on the front panel blinks in green and amber for fan error indication, turn off the power and contact an authorized Sony dealer.

Features

The PVM-X300 (30-type) Professional Video Monitor is a high-resolution, high-performance LCD video monitor that features full 4K resolution (4096 × 2160 pixels), higher than four times that of a full HD monitor. The monitor is equipped with SDI and HDMI[1)] inputs supporting signals of most 4K formats. This is suitable for job sites where high-resolution monitors are required, such as production houses of 4K digital cinema, computer graphics and industrial design, as well as research and development fields, and development departments for video equipment.

1) The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

High resolution, high-performance LCD panel

The monitor is a high-performance LCD monitor equipped with a high-resolution panel (full 4K: 4096 × 2160 pixels) and 10-bit driver. It offers precise color reproduction with its wide viewing-angle characteristics. Despite its high resolution of full 4K, the size of the monitor is middle-sized 30-type. This is available for various usage settings, from shooting to editing.

4K content playable

4K content can be easily played using the optional BKM-XP1 4K SxS Player.
Images recorded in high frame rate of XAVC 4K or XAVC HD can also be played simply by inserting a high-speed SxS PRO+ Memory Card in the 4K SxS Player.

Supports multiple signal formats

The monitor supports the input of HD signals such as 4096 × 2160/24P, 3840 × 2160/24P, and 1920 × 1080/24P digital cinema signals.
For input interfaces, four 3G/HD-SDI inputs and four HDMI inputs are equipped.

Multiple display modes

The monitor basically supports 4K/QFHD and 2K/HD display modes.
The 4K/QFHD mode is used for displaying 4096 × 2160 or 3840 × 2160 signals. The 2K/HD mode is used for displaying signals or signals of lower resolution than 2048 × 1080.

Focus assist function

This function sharpens the edges of the image more than the amount set by the upper limit of the aperture value set in the USER CONTROL menu. This is convenient for focusing with the camera.
This function also highlights the focused objects in an image in contrasting color, providing fast and exact focusing.

Gamma-adjustment function

You can select the gamma mode from among 2.2, 2.6, and S-LOG2 TO 709(800%), in addition to 2.4 specified by ITU-R BT.1886.

Illuminated control panel

The characters that represent the names of the buttons on the control panel can be illuminated, therefore legible in the dark. The brightness of the LED has two levels, and varies according to the ambient light.

Various audio outputs

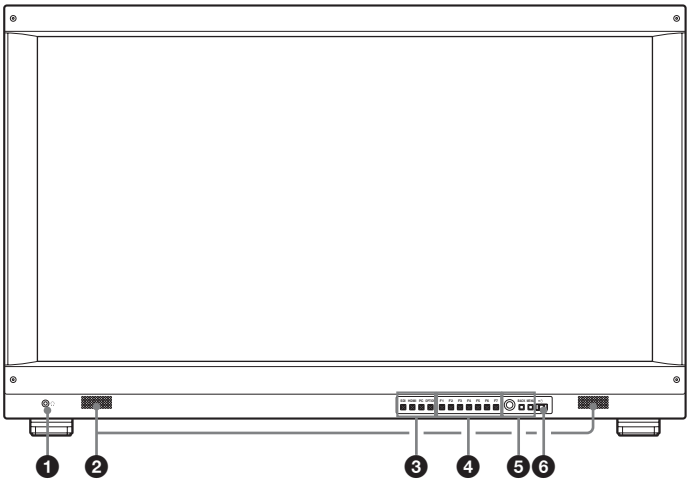
The monitor is equipped with stereo speakers on the front panel. An audio monitor output connector (stereo mini jack) is also provided on the lower panel.

Durable aluminum housing

A solid aluminum housing ensures sufficient durability to use the monitor when shooting on location.

Location and Function of Parts and Controls

Front Panel



❶ (headphones) jack
The audio signal which is selected using the input select button is output in stereo sound.

❷ Speakers
The audio signal selected using the input select button is output in stereo.
When SDI signals are input, the audio signals of the channels selected with AUDIO SETTING in the USER CONFIG menu are output.
The audio signals for the speakers are also output from the AUDIO OUT connector on the lower panel (see page 12).
Audio signals will not be output when headphones are connected to the jack.

❸ Input select buttons
Press to monitor the signal input to each connector.
SDI button: to monitor the signal through the SDI input connector
HDMI button: to monitor the signal through the HDMI connector
PC button: used for future expansion
OPTION button: to monitor the signal through the optional BKM-XP1 4K SxS Player

❹ Function buttons
Press to adjust or turn on/off the assigned function.
The following functions are assigned at the factory.
F1 button: BRIGHTNESS
F2 button: CONTRAST
F3 button: CHROMA
F4 button: BACKLIGHT
F5 button: NATIVE SCAN
F6 button: VOLUME
F7 button: VIEW MODE
You can assign a function to the function buttons using FUNCTION BUTTON SETTING in the USER CONFIG menu.

For details on the assignable functions, see “Functions assignable to the function buttons” (page 21).

❺ Menu operation buttons
Displays or sets the on-screen menu.

Menu selection control
When the menu is displayed, turn the control to select a menu item or setting value, and then press the control to confirm the setting.
If the menu is not displayed and the menu selection control is pressed, the characters that represent the names of the buttons light up. Also, the names of the functions assigned to the function buttons appear on the screen.
Alternatively, if the menu is not displayed and the menu selection control is pressed for more than two seconds, the signal format is displayed on the screen.

BACK button
When the menu is displayed, press the button to reset the value of an item to the previous value (except some items).

MENU button
Press to display the menu and the functions assigned to the function buttons.
Press again to clear the menu.

Note

The operations of the buttons and controls may differ when the optional BKM-XP1 4K SxS Player is used. For details, refer to the operation manual of the BKM-XP1.

❻ ⏻ (standby) switch and indicator

Press to turn the power on when this unit is in standby mode. After being turned on, the unit performs initialization and the indicator flashes in green. The indicator lights in green once initialization is completed. Press the switch again to set the monitor in standby mode. The indicator goes out.

Note

The indicator temporarily lights in green even in standby mode, immediately after the AC power cord is connected to an AC outlet.

Error display by the indicator

The indicator of the ⏻ (standby) switch on the front panel may show an error while the monitor is being operated. If the error is shown, please contact an authorized Sony dealer.

Error display	Symptoms
Flashes in red	Device error
Lights in amber	The temperature in the panel part is unusual.
Flashes in amber	The ambient temperature sensor is unusual.
Flashes in green and amber	Fan error
Flashes in green and red	Option's error

Input Signals and Adjustable/ Setting Items

The adjustable/setting items for the signals input via the SDI IN connectors, HDMI connectors and the BKM-XP1 installed on the OPTION mount are as follows:

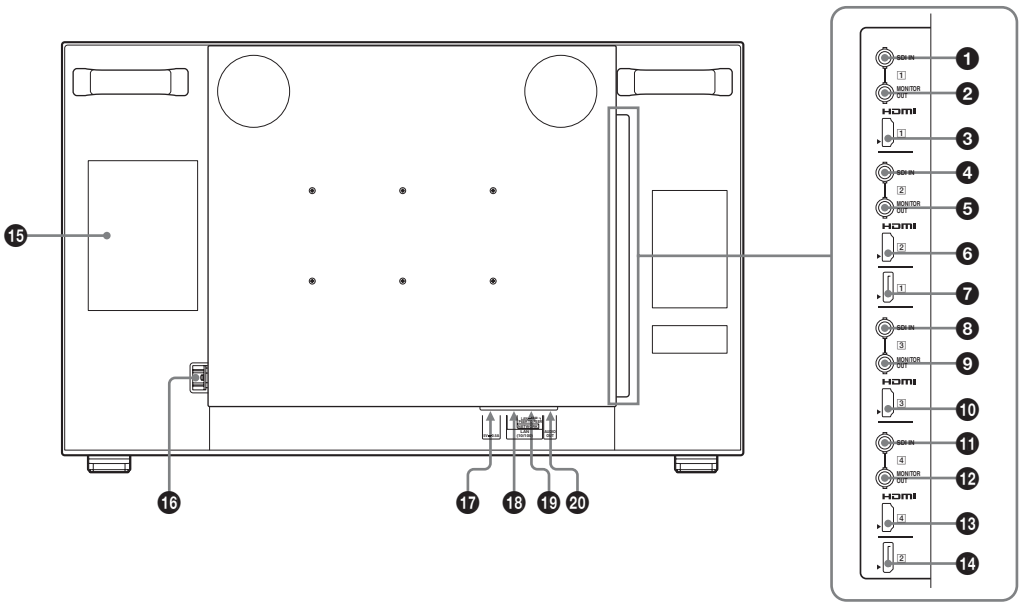
Item	Input signal		
	SDI	HDMI	OPTION
BRIGHTNESS	○	○	○
CONTRAST	○	○	○
CHROMA	○	○	○
BACKLIGHT	○	○	○
NATIVE SCAN	○	○1)	○
VOLUME	○	○	○
VIEW MODE	○	×	×
APERTURE	○	○	○
AUDIO LEVEL METER	○	×	○
TIME CODE	○2)	×	○2)
MARKER	○	○3)	○
COLOR TEMP	○	○	○
COLOR SPACE	○	○	○
GAMMA	○	○	○
FOCUS ASSIST	○	○4)	○
CHROMA UP	○	○	○

○ : Adjustable/can be set × : Not adjustable/cannot be set

1) The setting is fixed to NATIVE SCAN for the HDMI SD and computer signal input.
2) When a 4K or QFHD-resolution picture is displayed, the actual display position of the time code, in certain cases, differs from the position set in the TIME CODE SETTING menu.
3) This item is not available for the HDMI SD and computer signal input.
4) This item is not available for the HDMI computer signal input.

In this manual, the BKM-XP1 installed on the OPTION mount is referred to as OPTION, and the input via the BKM-XP1 is referred to as the OPTION input.

Rear Panel/Side Panel/Lower Panel



❶❹❽⓫ SDI IN (SDI input) connectors (BNC)
Input connectors for serial digital signals.
For details, see "Connecting the SDI Signals" (page 23).

❷❺❾⓬ MONITOR OUT (monitor output) connectors (BNC)
Output connectors for serial digital signals.
Each of [1] to [4] connectors outputs the signal that is input to the corresponding SDI IN connector.
When the optional BKM-XP1 4K SxS Player is mounted, the SDI signal from the BKM-XP1 is output by pressing the OPTION button.

Notes

- The signal from the MONITOR OUT connector does not satisfy the ON-LINE signal specifications.
- Output is only activated when the power is on. No output in standby mode.
- The signal from the BKM-XP1 4K SxS Player may be output in the monitor's own signal format.

❸❻❿⓭ HDMI input connectors
Input connectors for HDMI signals.
The [1] to [4] connectors are available for four inputs.

HDMI (High-Definition Multimedia Interface) is an interface that supports both video and audio on a single digital connection, allowing you to enjoy high quality digital picture and sound. The HDMI specification supports HDCP (High-bandwidth Digital Content Protection), a copy protection technology that incorporates coding technology for digital video signals.

Note

For an HDMI cable (optional), use High Speed HDMI Cable with the cable type logo. (We recommend a Sony cable.) When inputting 4K resolution (3840 × 2160 or 4096 × 2160) signal, use a cable of 3 m or less.

❼⓮ PC input connectors ([1] [2])
Used for future expansion.

⓯ OPTION mount
Attach the BKM-XP1 4K SxS Player. For details, contact an authorized Sony dealer.

⓰ AC IN Socket
Connects the supplied AC power cord.

⓱ OPTION connector
Used for future expansion.

⓲ LAN (10/100) connector
Used for future expansion.
Connect to the LAN (10/100) connector of the network by using a 10BASE-T/100BASE-TX LAN cable.

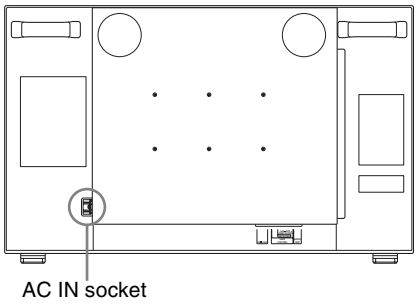
CAUTION
For safety, do not connect the connector for peripheral device wiring that might have excessive voltage to this port.

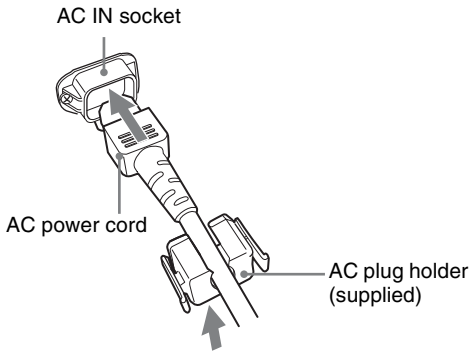
⓳ NETWORK switch
Used for future expansion.

⑳ AUDIO OUT connector (stereo mini jack)
Outputs the audio of the signal which is selected using the input select button on the front panel.
When the SDI signal is selected, the audio signals of the channels selected with AUDIO SETTING in the USER CONFIG menu are output.

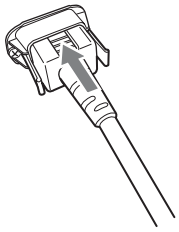
Connecting the AC Power Cord

1 Plug the AC power cord into the AC IN socket on the rear. Then, attach the AC plug holder (supplied) to the AC power cord.





2 Slide the AC plug holder over the cord until it locks.



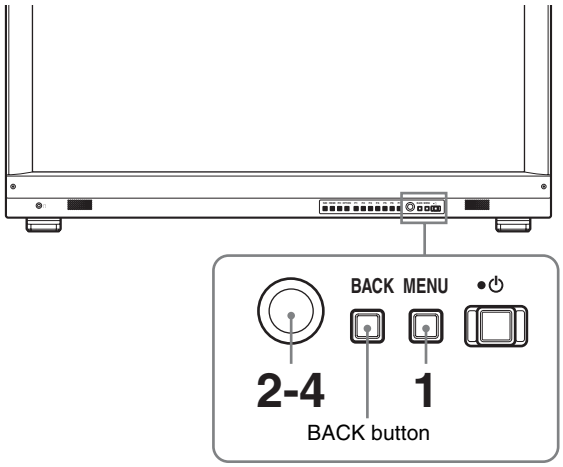
To disconnect the AC power cord

Pull out the AC plug holder while pressing the lock levers.

Using the Menu

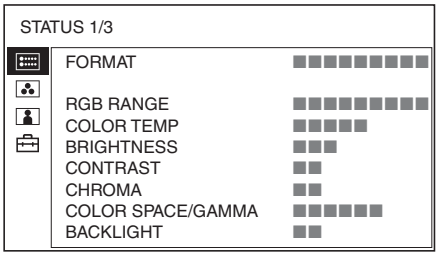
The unit is equipped with an on-screen menu for making various adjustments and settings such as picture control, input setting, set setting change, etc.

The current settings are displayed in place of the ■ marks on the illustrations of the menu screen.



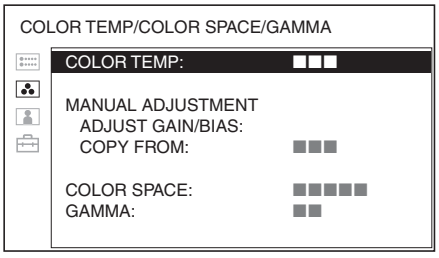
1 Press the MENU button.

The menu appears.
The menu presently selected is shown in yellow.



2 Turn the menu selection control to select a menu, then press the menu selection control.

The menu icon presently selected is shown in yellow and setting items are displayed.



3 Select an item.

Turn the menu selection control to select the item, then press the menu selection control.

The item to be changed is displayed in yellow.
If the menu consists of multiple pages, turn the menu selection control to go to the desired menu page.

4 Make the setting or adjustment on an item.

When changing the adjustment level:
To increase the number, turn the menu selection control right.
To decrease the number, turn the menu selection control left.
Press the menu selection control to confirm the number, then restore the original screen.
When changing the setting:
Turn the menu selection control to change the setting, then press the menu selection control to confirm the setting.
When returning the adjustment or setting to the previous value:
Press the BACK button before pressing the menu selection control.

Note

An item displayed in black cannot be accessed. You can access the item if it is displayed in white.

To return the display to the previous screen

Press the BACK button.

To clear the menu

Press the MENU button.

About the memory of the settings

The settings are automatically stored in the monitor memory.

Note

The operations of the buttons and controls may differ when the optional BKM-XP1 4K SxS Player is used. For details, refer to the operation manual of the BKM-XP1.

Adjustment Using the Menus

Items

The screen menu of this monitor consists of the following items.

STATUS menu (the items indicate the current settings.)

For SDI input or OPTION input

- FORMAT
- RGB RANGE
- COLOR TEMP
- BRIGHTNESS
- CONTRAST
- CHROMA
- COLOR SPACE/GAMMA
- BACKLIGHT
- SDI PAYLOAD ID
- INPUT: Input
- PAYLOAD ID
  - VIDEO STANDARD
  - SAMPLING STRUCTURE
  - BIT DEPTH
  - PICTURE RATE
  - SCANNING METHOD
  - LINK NUMBER
- MODEL NAME
- SERIAL NO.
- SOFTWARE VERSION
- OPTION MODEL NAME [1)]
- SERIAL NO. [1)]
- SOFTWARE VERSION [1)]

For HDMI input

- FORMAT
- RGB RANGE
- COLOR TEMP
- BRIGHTNESS
- CONTRAST
- CHROMA
- COLOR SPACE/GAMMA
- BACKLIGHT
- HDMI
- INPUT
- PIXEL ENCODING
- COLOR DEPTH
- MATRIX
- RGB RANGE
- MODEL NAME
- SERIAL NO.
- SOFTWARE VERSION
- OPTION MODEL NAME [1)]
- SERIAL NO. [1)]
- SOFTWARE VERSION [1)]

1) This item appears only when the optional BKM-XP1 4K SxS Player (OPTION) is mounted.

COLOR TEMP/COLOR SPACE/ GAMMA menu

- COLOR TEMP
- MANUAL ADJUSTMENT
  - ADJUST GAIN/BIAS
  - COPY FROM
- COLOR SPACE
- GAMMA

USER CONTROL menu

- APERTURE
- BACKLIGHT CONTROL
- BACKLIGHT

USER CONFIG menu

- 4K/QFHD INPUT SETTING
  - INTERFACE FORMAT
  - IMAGE DIVISION (SDI input only)
  - SIGNAL FORMAT
    - INPUT
  - RGB RANGE
  - HDMI AUTO (HDMI input only)
- 2K/HD INPUT SETTING
  - INTERFACE FORMAT
  - SIGNAL FORMAT
    - INPUT
  - 1080I/PSF (SDI input only)
    - 24PSF
    - 25PSF/50I
    - 30PSF/60I
  - RGB RANGE
  - HDMI AUTO (HDMI input only)
- FUNCTION BUTTON SETTING
  - F1 BUTTON
  - F2 BUTTON
  - F3 BUTTON
  - F4 BUTTON
  - F5 BUTTON
  - F6 BUTTON
  - F7 BUTTON
- MARKER SETTING
  - MARKER
  - ASPECT MARKER
  - CENTER MARKER
  - AREA MARKER
  - BRIGHTNESS
  - ASPECT MAT

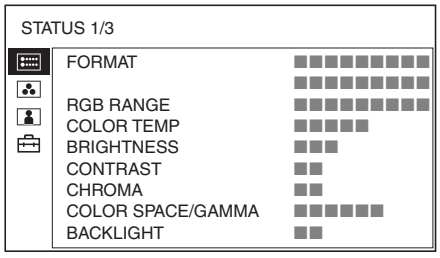
FOCUS ASSIST SETTING
  FOCUS ASSIST
  FOCUS MODE
    COLOR
  FREQUENCY
  RANGE
  GAIN
TIME CODE SETTING
  TIME CODE
  FORMAT
  POSITION
  BRIGHTNESS
  MAT
AUDIO LEVEL METER SETTING
  AUDIO LEVEL METER
  POSITION
  MAT
AUDIO SETTING
  SDI AUDIO
    LEFT AUDIO
    RIGHT AUDIO
SYSTEM SETTING
  FORMAT DISPLAY
  LED
  LED BRIGHTNESS

Adjusting and Changing the Settings

STATUS menu

The STATUS menu is used to display the current status of the unit. The following items are displayed:

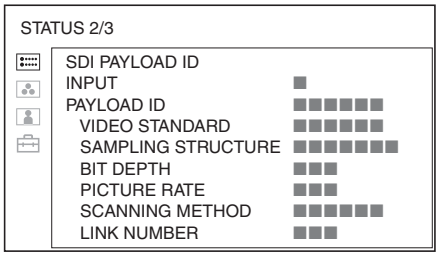
Page 1/3



- FORMAT
- RGB RANGE [1)]
- COLOR TEMP
- BRIGHTNESS
- CONTRAST
- CHROMA
- COLOR SPACE/GAMMA
- BACKLIGHT

1) RGB RANGE information is not displayed when OPTION is selected.

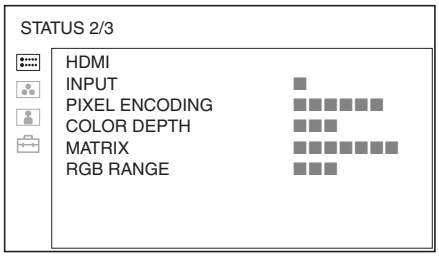
Page 2/3 (for SDI input or OPTION input)



- SDI PAYLOAD ID
- INPUT [2)]
- PAYLOAD ID [2)]
  - VIDEO STANDARD
  - SAMPLING STRUCTURE
  - BIT DEPTH
  - PICTURE RATE
  - SCANNING METHOD [2)]
  - LINK NUMBER [2)]

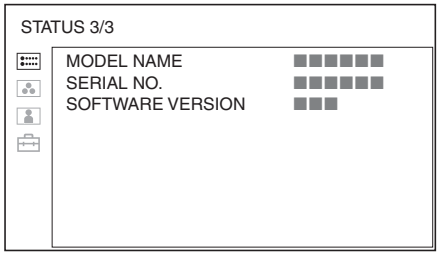
2) The information of the following items is not displayed when OPTION is selected.
- INPUT
- PAYLOAD ID
- SCANNING METHOD
- LINK NUMBER

Page 2/3 (for HDMI input)



- HDMI
- INPUT
- PIXEL ENCODING
- COLOR DEPTH
- MATRIX
- RGB RANGE

Page 3/3 [3)]

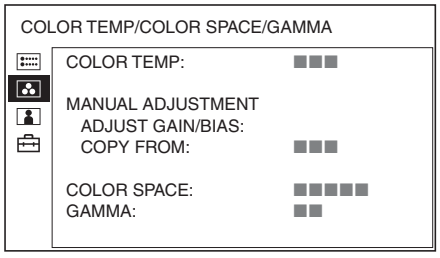


- MODEL NAME
- SERIAL NO.
- SOFTWARE VERSION

3) The following items are also displayed when the optional BKM-XP1 4K SxS Player is mounted.
   - OPTION MODEL NAME
   - SERIAL NO.
   - SOFTWARE VERSION

COLOR TEMP/COLOR SPACE/ GAMMA menu

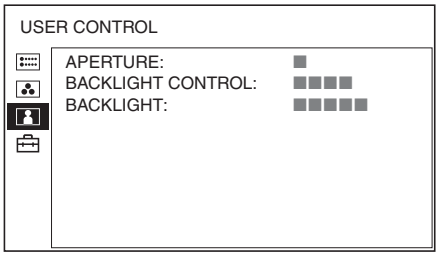
The COLOR TEMP/COLOR SPACE/GAMMA menu is used for adjusting or setting the picture white balance, color space or gamma.



Submenu	Setting
COLOR TEMP	Selects the color temperature from among D65, D93 and USER setting. **Note** If you measure the color temperatures of different display types, such as CRT, LCD, or OLED, by using a common (or general) color analyzer that is based on CIE 1931, and adjust the xy chromaticity to the same value, the appearance may be different because of optical spectrum differences. To compensate for this difference, the D65 and D93 settings of the monitor are adjusted by an offset*. * The offset value applied (x-0.003, y-0.005) is based on the Judd's function to the CIE 1931 (x, y) value.
MANUAL ADJUSTMENT	If you set the COLOR TEMP to USER setting, the item displayed is changed from black to white, which means you can adjust the color temperature. The set values are memorized. • **ADJUST GAIN/BIAS**: Adjusts the color balance (gain and bias). • **COPY FROM:** If you select D65 or D93, the white balance data for the selected color temperature will be copied in the USER setting.
COLOR SPACE	Selects the color space ITU-709 or S-GAMUT.
GAMMA	Selects the appropriate gamma mode from among 2.2, 2.4, 2.6 and S-LOG2 TO 709(800%). The factory setting is gamma 2.4 that is specified by ITU-R BT.1886.

USER CONTROL menu

The USER CONTROL menu is used for adjusting the picture.



Submenu	Setting
APERTURE	Adjusts the picture sharpness. The higher the setting, the sharper the picture. The lower the setting, the softer the picture. APERTURE does not work when the FOCUS ASSIST is set to ON.
BACKLIGHT CONTROL	Enables or disables the backlight control function. The backlight control function lowers the brightness of the backlight to reduce the power consumption of the unit when no signal is input or when the video signal input level is zero for a long time. • **ON:** to enable the backlight control function • **OFF:** to disable the backlight control function
BACKLIGHT	Adjusts the backlight level. The higher the setting, the brighter the backlight. The lower the setting, the darker the backlight.

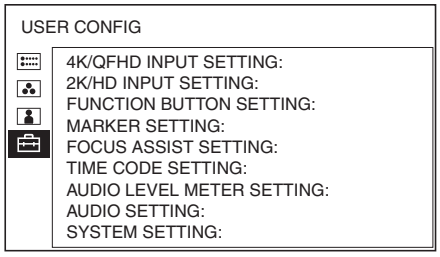
USER CONFIG menu

The USER CONFIG menu consists of the following setting menus: input setting, function button setting, marker setting, focus assist setting, time code setting, audio level meter setting, audio setting and system setting.

There are two input settings:
- 4K/QFHD INPUT SETTING: to display 4K or QFHD images
- 2K/HD INPUT SETTING: to display 2K or HD images

Note

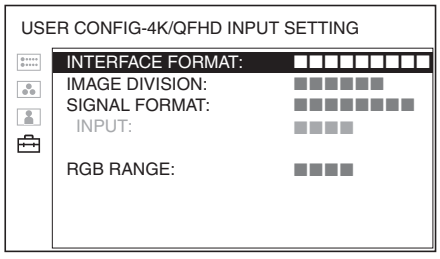
The 4K/QFHD INPUT SETTING and 2K/HD INPUT SETTING menus cannot be accessed when OPTION is selected.



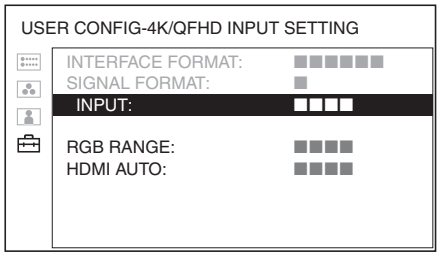
4K/QFHD INPUT SETTING

This is the input setting for 4096 × 2160 and 3840 × 2160 signals. The setting items differ depending on the selection made with the input select button (SDI or HDMI) on the front panel.

When SDI input is selected



When HDMI input is selected



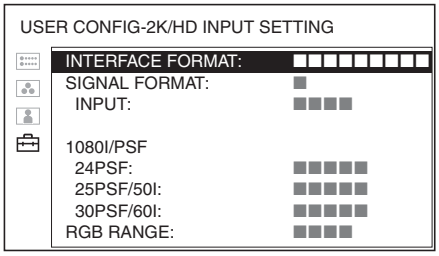
Submenu	Setting
INTERFACE FORMAT	Selects the interface format. **For SDI input** Select one of the following four interface formats. The IMAGE DIVISION and SIGNAL FORMAT items may appear depending on the selection. • **QUAD-LINK 3G/HD-SDI**: The IMAGE DIVISION and SIGNAL FORMAT are set automatically according to the input signal (AUTO). The INPUT is fixed to INPUT 1&2&3&4. • **QUAD-LINK 3G-SDI**: Select the IMAGE DIVISION and SIGNAL FORMAT. The INPUT is fixed to INPUT 1&2&3&4. • **QUAD-LINK HD-SDI**: The IMAGE DIVISION is fixed to SQUARE, the SIGNAL FORMAT to 422 YCBCR 10BIT, and the INPUT to INPUT 1&2&3&4. • **DUAL-LINK 3G-SDI**: Select the IMAGE DIVISION and INPUT. The SIGNAL FORMAT is fixed to 422 YCBCR 10BIT. **For HDMI input** The INTERFACE FORMAT is fixed to SINGLE-LINK HDMI. Select the INPUT.
IMAGE DIVISION	Selects the image division when QUAD-LINK 3G-SDI or DUAL-LINK 3G-SDI is selected for the INTERFACE FORMAT. • **AUTO**: to set the image division by detecting the input signal automatically • **SQUARE**: to input the Square division signal • **2-SAMPLE INTERLEAVE**: to input the 2-sample interleave division signal
SIGNAL FORMAT	**For SDI input** Selects the format of the SDI input signal when QUAD-LINK 3G-SDI is selected for the INTERFACE FORMAT. You can select from among AUTO, 422 YCBCR 10BIT, 444 RGB 10BIT, 444 YCBCR 10BIT, 444 RGB 12BIT, or 444 YCBCR 12BIT. **For HDMI input** This item cannot be accessed.

Submenu	Setting
INPUT	Selects the input connector to be used. **For SDI input** Select the input connector when DUAL-LINK 3G-SDI is selected for the INTERFACE FORMAT. • **INPUT 1&2**: to use SDI IN connectors 1 and 2 • **INPUT 3&4**: to use SDI IN connectors 3 and 4 This item is fixed to INPUT 1&2&3&4 when the INTERFACE FORMAT is set to any other option than DUAL-LINK 3G-SDI. **For HDMI input** • **INPUT 1**: to use HDMI input connector 1 • **INPUT 2**: to use HDMI input connector 2 • **INPUT 3**: to use HDMI input connector 3 • **INPUT 4**: to use HDMI input connector 4
RGB RANGE	Sets the black level and white level (quantization range) for the RGB format. **For SDI input** • **FULL**: 0 (black level) to 1023 (10bit)/4095 (12bit) (white level) • **LIMITED**: 64 (10bit)/256 (12bit) (black level) to 940 (10bit)/3760 (12bit) (white level) **For HDMI input** • **FULL**: 0 (black) to 255 (8bit)/ 1023 (10bit)/4095 (12bit) (white level) • **LIMITED**: 16 (8bit)/64 (10bit)/ 256 (12bit) (black level) to 235 (8bit)/940 (10bit)/3760 (12bit) (white level)
HDMI AUTO	Sets the manual or automatic setting for the quantization range of the HDMI signal. • **OFF**: to set the quantization range manually using RGB RANGE of the menu • **ON**: to set the quantization range automatically according to the input signal

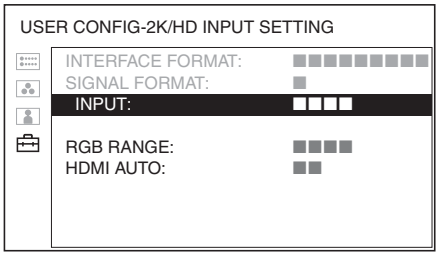
2K/HD INPUT SETTING

This is the input setting for signals below 2048 × 1080. The setting items differ depending on the selection made with the input select button (SDI or HDMI) on the front panel.

When SDI input is selected



When HDMI input is selected

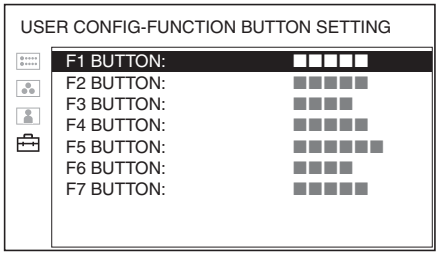


Submenu	Setting
INTERFACE FORMAT	Displays the interface format. **For SDI input** Select one of the following three interface formats. The SIGNAL FORMAT item may appear depending on the selection. Select the SIGNAL FORMAT and INPUT. • **SINGLE-LINK 3G/HD-SDI** • **SINGLE-LINK 3G-SDI** • **DUAL-LINK 3G-SDI** **For HDMI input** The INTERFACE FORMAT is fixed to SINGLE-LINK HDMI. Select the INPUT.
SIGNAL FORMAT	**For SDI input** Selects the format of the SDI input signal. The setting options appear depending on the selection of the INTERFACE FORMAT. • **When SINGLE-LINK 3G/HD-SDI is selected**: The SIGNAL FORMAT is fixed to AUTO. • **When SINGLE-LINK 3G-SDI is selected**: You can select from among 422 YCBCR 10BIT, 444 RGB 10BIT, 444 YCBCR 10BIT, 444 RGB 12BIT, or 444 YCBCR 12BIT. • **When DUAL-LINK 3G-SDI is selected**: You can select from among AUTO, 444 RGB 10BIT, 444 YCBCR 10BIT, 444 RGB 12BIT, or 444 YCBCR 12BIT. **For HDMI input** This item cannot be accessed.

Submenu	Setting
INPUT	Selects the input connector to be used. **When SINGLE-LINK 3G/HD-SDI or SINGLE-LINK 3G-SDI is selected for SDI input** • **INPUT 1**: to use SDI IN connector 1 • **INPUT 2**: to use SDI IN connector 2 • **INPUT 3**: to use SDI IN connector 3 • **INPUT 4**: to use SDI IN connector 4 **When DUAL-LINK 3G-SDI is selected for SDI input** • **INPUT 1&2**: to use SDI IN connectors 1 and 2 • **INPUT 3&4**: to use SDI IN connectors 3 and 4 **For HDMI input (SINGLE-LINK HDMI)** • **INPUT 1**: to use HDMI input connector 1 • **INPUT 2**: to use HDMI input connector 2 • **INPUT 3**: to use HDMI input connector 3 • **INPUT 4**: to use HDMI input connector 4
1080I/PSF	**For SDI input** Selects the display mode when the 1080i/PsF signal is input. You can select one of the following three options depending on the input signal. • **24PSF**: for the 1080/24PsF signal • **25PSF/50I**: for the 1080/25PsF, 50i signal • **30PSF/60I**: for the 1080/30PsF, 60i signal When INTERLACE is selected, the I/P conversion signal is displayed. When PSF is selected, the progressive conversion (PsF to P) signal is displayed. **Note** When AUTO is selected for the SIGNAL FORMAT, the display mode is automatically detected by SDI Payload ID. **For HDMI input** This item cannot be accessed.

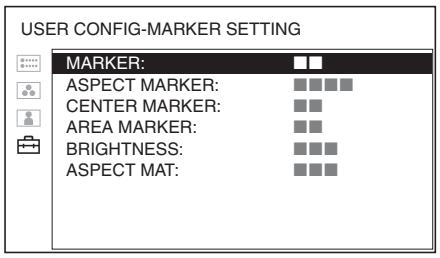
Submenu	Setting
RGB RANGE	Sets the black level and white level (quantization range) for the RGB format. **For SDI input** • **FULL**: 0 (black level) to 1023 (10bit)/4095 (12bit) (white level) • **LIMITED**: 64 (10bit)/256 (12bit) (black level) to 940 (10bit)/3760 (12bit) (white level) **For HDMI input** • **FULL**: 0 (black) to 255 (8bit)/ 1023 (10bit)/4095 (12bit) (white level) • **LIMITED**: 16 (8bit)/64 (10bit)/ 256 (12bit) (black level) to 235 (8bit)/940 (10bit)/3760 (12bit) (white level)
HDMI AUTO	Sets the manual or automatic setting for the quantization range of the HDMI signal. • **OFF**: to set the quantization range manually using RGB RANGE of the menu • **ON**: to set the quantization range automatically according to the input signal

FUNCTION BUTTON SETTING



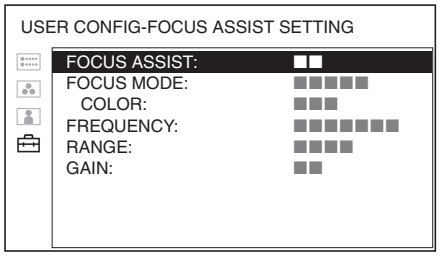
Submenu	Setting
F1 BUTTON F2 BUTTON F3 BUTTON F4 BUTTON F5 BUTTON F6 BUTTON F7 BUTTON	Assigns the function to the function buttons F1 to F7 on the front panel. For the assignable functions, see "Functions assignable to the function buttons" (page 21). **Factory setting** • **F1 BUTTON**: BRIGHTNESS • **F2 BUTTON**: CONTRAST • **F3 BUTTON**: CHROMA • **F4 BUTTON**: BACKLIGHT • **F5 BUTTON**: NATIVE SCAN • **F6 BUTTON**: VOLUME • **F7 BUTTON**: VIEW MODE

MARKER SETTING



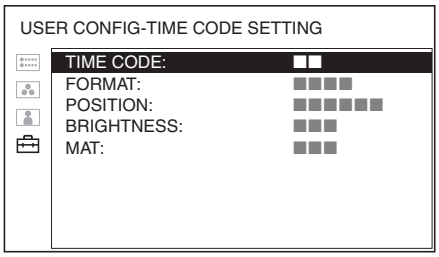
Submenu	Setting
MARKER	Selects ON to display the marker and OFF not to display.
ASPECT MARKER	Selects the aspect ratio of the aspect marker. You can select from among OFF, 4:3, 16:9, 15:9, 14:9, 13:9, 1.85:1 and 2.35:1.
CENTER MARKER	Selects ON to display the center marker and OFF not to display.
AREA MARKER	Selects the size of the area marker. You can select from among OFF, 80%, 85%, 88%, 90% and 93%.
BRIGHTNESS	Sets the luminance of the line of the marker. • **LOW**: dark • **HIGH**: bright
ASPECT MAT	Sets whether or not to set the blanking outside the area of the aspect marker. • **OFF**: Blanking is released. • **HALF**: The portion of the image outside the aspect marker area is semimasked. • **BLACK**: The portion of the image outside the aspect marker area is hidden.

FOCUS ASSIST SETTING



Submenu	Setting
FOCUS ASSIST	Enables or disables the focus assist function that can highlight focused objects with contrasting color. • **OFF**: to disable the focus assist function • **ON**: to enable the focus assist function
FOCUS MODE	Switches the focus mode. • **STD**: An image with sharpened edges is displayed. • **COLOR**: Displays the intensified areas of images with color selected in COLOR below.
COLOR	Selects the color to intensify from among RED, GREEN, BLUE, YELLOW and WHITE.
FREQUENCY	Sets the center frequency of the edge sharpening signal. You can select LOW, MIDDLE, MIDDLE HIGH, or HIGH.
RANGE	Sets the target area for edge sharpening. You can select NARROW, MIDDLE, or WIDE.
GAIN	Sets the level of edge sharpening. You can select from 0 to 100.

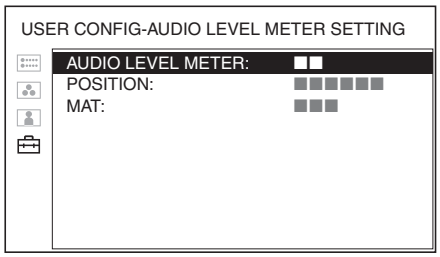
TIME CODE SETTING



Submenu	Setting
TIME CODE	Selects ON to display the time code display and OFF not to display.
FORMAT	Selects the type of the time code to be displayed. • **VITC**: to display the VITC time code • **LTC**: to display the LTC time code
POSITION*	Sets the position of the time code display on the screen. • **TOP LEFT**: to display at the top left • **TOP RIGHT**: to display at the top right • **BOTTOM LEFT**: to display at the bottom left • **BOTTOM RIGHT**: to display at the bottom right
BRIGHTNESS	Sets the luminance of the time code display. • **LOW**: dark • **HIGH**: bright
MAT	Selects the background of the time code display. • **BLACK**: The background becomes black. The image is hidden behind the background. • **HALF**: The background becomes transparent. The image is seen through under the time code display.

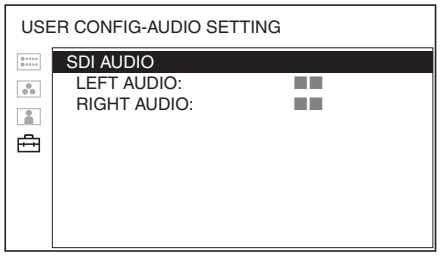
* When a 4K or QFHD-resolution picture is displayed, the actual display position of the time code, in certain cases, differs from the position set in the TIME CODE SETTING menu.

AUDIO LEVEL METER SETTING



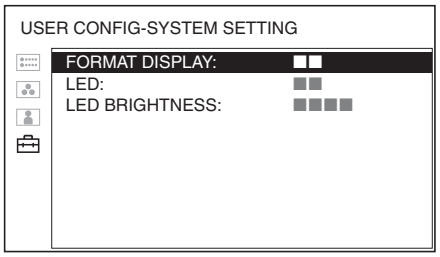
Submenu	Setting
AUDIO LEVEL METER	Selects ON to display the audio level meter display and OFF not to display.
POSITION	Sets the position of the audio level meter display on the screen. • **TOP LEFT**: to display at the top left • **TOP RIGHT**: to display at the top right • **BOTTOM LEFT**: to display at the bottom left • **BOTTOM RIGHT**: to display at the bottom right
MAT	Selects the background of the audio level meter display. • **BLACK**: The background becomes black. The image is hidden behind the background. • **HALF**: The background becomes transparent. The image is seen through under the audio level meter display.

AUDIO SETTING



Submenu	Setting
SDI AUDIO	Sets the audio channel when SDI signal is input.
LEFT AUDIO	Selects the left audio channel. You can select from among CH1 to CH16 channels.
RIGHT AUDIO	Selects the right audio channel. You can select from among CH1 to CH16 channels. If LEFT AUDIO is set between CH1 and CH8, CH1 to CH8 can also be set for RIGHT AUDIO. If LEFT AUDIO is set between CH9 and CH16, CH9 to CH16 can also be set for RIGHT AUDIO.

SYSTEM SETTING



Submenu	Setting
FORMAT DISPLAY	Selects the display mode of the signal format. • **ON**: The format is always displayed. • **OFF**: The display is hidden. • **AUTO**: The format is displayed for about five seconds when the input of the signal starts.
LED	Selects whether the LEDs on the buttons light or not. • **ON**: The LEDs always light. • **OFF**: The LEDs do not light at all.
LED BRIGHTNESS	Selects the brightness of the LED of the buttons. • **HIGH**: The LED becomes brighter. • **LOW**: The LED becomes darker.

Functions assignable to the function buttons

You can assign the following functions to the function buttons F1 to F7 on the front panel.

BRIGHTNESS

Press the button to display the adjustment screen and adjust the picture brightness. Press again to hide the adjustment screen. However, the picture brightness remains adjustable. Turn the menu selection control right to increase the brightness and turn left to decrease it.

CONTRAST

Press the button to display the adjustment screen and adjust the picture contrast. Press again to hide the adjustment screen. However, the picture contrast remains adjustable. Turn the menu selection control right to increase the contrast and turn left to decrease it.

CHROMA
Press the button to display the adjustment screen and adjust the color intensity. Press again to hide the adjustment screen. However, the color intensity remains adjustable. Turn the menu selection control right to increase the intensity and turn left to decrease it.

BACKLIGHT
Press the button to display the adjustment screen and adjust the backlight brightness. Press again to hide the adjustment screen. However, the backlight brightness remains adjustable. Turn the menu selection control right to increase the brightness and turn left to decrease it.

NATIVE SCAN
You can set whether the pixel interpolation is to be applied or not when displaying 2K or HD signals to expand to full screen. Normally the pixel interpolation is applied when expanding the image (NORMAL SCAN). Press the button to expand the image without interpolation (NATIVE SCAN). Press the button again to resume interpolation.

VOLUME
Press the button to display the adjustment screen and adjust the volume. Press again to hide the adjustment screen. However, the volume remains adjustable. Turn the menu selection control right to increase the volume and turn left to decrease it.

VIEW MODE
Press the button to select the view mode. Each time the button is pressed, 4K/QFHD mode or 2K/HD mode is set alternately.

APERTURE
Press the button to display the adjustment screen and adjust picture sharpness. Press again to hide the adjustment screen. However, picture sharpness remains adjustable. Turn the menu selection control right to make the picture sharper and turn it left to make the picture softer.

MARKER
Press the button to display the marker. Set the marker in the MARKER SETTING menu (page 20).

TIME CODE
You can display the time code when SDI signal input is selected.
Press the button to display the time code. Adjust the settings for the time code display in the TIME CODE SETTING menu (page 20).

AUDIO LEVEL M.
You can display the audio level meter when SDI signal input is selected. The audio level meter shows the CH1 to CH8 or CH9 to CH16 channels that were selected in the AUDIO SETTING menu.
Press the button to display the audio level meter. Adjust the settings for the audio level meter display in AUDIO LEVEL METER SETTING menu (page 21).

FOCUS ASSIST
Press the button to confirm the camera focus.
An image with sharpened edges is displayed.

CHROMA UP
Press the button to maximize the color intensity (about twice). Press the button again to resume normal color intensity.

Scan mode image

4K/QFHD mode

4096 × 2160

3840 × 2160

2K/HD mode

1920 × 1080
1280 × 720

2048 × 1080

1024 × 768
800 × 600
726 × 576
720 × 480
640 × 480

Connecting the SDI Signals

Single Link 3G/HD-SDI, Dual Link 3G-SDI, and Quad Link 3G-SDI signals can be input to the SDI IN connectors of this unit.
Up to 4-channel Single Link 3G/HD-SDI signals, up to 2-channel Dual Link 3G-SDI signals, or 1-channel Quad Link 3G-SDI signals can be input. Use the appropriate input connectors depending on the input signal, referring to the tables below.

Connecting the Dual Link 3G-SDI* signal

To input 2-sample interleave division signals

Connector	Input signal
SDI IN 1	3G-SDI Link 1
SDI IN 2	3G-SDI Link 2

or

Connector	Input signal
SDI IN 3	3G-SDI Link 1
SDI IN 4	3G-SDI Link 2

To input Square division signals

Connector	Input signal
SDI IN 1	Mapping signal of Sub image 1 (upper-left screen) and Sub image 2 (upper-right screen)
SDI IN 2	Mapping signal of Sub image 3 (lower-left screen) and Sub image 4 (lower-right screen)

or

Connector	Input signal
SDI IN 3	Mapping signal of Sub image 1 (upper-left screen) and Sub image 2 (upper-right screen)
SDI IN 4	Mapping signal of Sub image 3 (lower-left screen) and Sub image 4 (lower-right screen)

When only 1-channel Dual Link 3G-SDI signal is input, the Single Link 3G/HD-SDI signals of up to 2 channels can be input via the SDI IN connectors that are not used for the Dual Link 3G-SDI signal.

Connecting the Quad Link 3G-SDI* signal

To input 2-sample interleave division signals

Connector	Input signal
SDI IN 1	3G-SDI Link 1
SDI IN 2	3G-SDI Link 2
SDI IN 3	3G-SDI Link 3
SDI IN 4	3G-SDI Link 4

To input Square division signals

Connector	Input signal
SDI IN 1	Mapping signal of Sub image 1 (upper-left screen)
SDI IN 2	Mapping signal of Sub image 2 (upper-right screen)
SDI IN 3	Mapping signal of Sub image 3 (lower-left screen)
SDI IN 4	Mapping signal of Sub image 4 (lower-right screen)

Connecting the Quad Link HD-SDI signal (Square division signal)

Connector	Input signal
SDI IN 1	Mapping signal of Sub image 1 (upper-left screen)
SDI IN 2	Mapping signal of Sub image 2 (upper-right screen)
SDI IN 3	Mapping signal of Sub image 3 (lower-left screen)
SDI IN 4	Mapping signal of Sub image 4 (lower-right screen)

Screen image of the Square division signal

Sub image 1 (upper-left screen)	Sub image 2 (upper-right screen)
Sub image 3 (lower-left screen)	Sub image 4 (lower-right screen)

* In this manual, the Square division signal is also referred to as the Dual Link 3G-SDI or Quad Link 3G-SDI signal.

Troubleshooting

This section may help you isolate the cause of a problem and as a result, eliminate the need to contact technical support.

- **The unit cannot be operated** → A function that does not work is assigned. Press the MENU button to check the function assigned to the function button.
- **The black bars appear at the upper/lower/left/right positions, or left/right positions of the display** → When the signal aspect ratio is different from that of the panel, the black bars appear. This is not a failure of the unit.
- **Adjustments and settings cannot be made** → Adjustments and settings may not be possible depending on the input signals and the status of the unit. See "Input Signals and Adjustable/Setting Items" (page 10).
- **Color is not displayed correctly** → Check the INTERFACE FORMAT, SIGNAL FORMAT, COLOR TEMP or COLOR SPACE setting.

Specifications

Picture performance

LCD panel a-Si TFT Active Matrix
Picture size (diagonal)
767.5 mm (30.2 inches)
Effective picture size (H × V)
678.9 × 358.0 mm
(26 3/4 × 14 1/8 inches)
Resolution (H × V)
4096 × 2160 pixels
Aspect 17:9
Pixel efficiency 99.99%
Panel drive RGB 10-bit
Viewing angle (Panel specification)
89°/89°/89°/89° (typical)
(up/down/left/right, contrast > 10:1)
Color temperature
D65, D93
Warm-up time Approx. 30 minutes
To provide stable picture quality, turn on the power of the monitor and leave it in this state for more than 30 minutes.

Input

SDI input connector
BNC type (4)
HDMI input connector
HDMI (4)
HDCP correspondence

Output

SDI monitor output connector
BNC type (4)
Output signal amplitude: 800 mVp-p ±10%
Output impedance: 75 Ω unbalanced
Audio monitor output connector
Stereo mini jack (1)
Built-in speaker output
1.0 W Stereo
Headphones output connector
Stereo mini jack (1)

General

Power AC 100 to 240 V, 2.4 A to 1.2 A, 50/60 Hz
Power consumption
Approx. 200 W (max. without mounting the option)
Approx. 230 W (max. with the option mounted)
Inrush current
(1) Maximum possible inrush current at initial switch-on (Voltage changes caused by manual switching):
50 A peak, 3 A r.m.s. (240V AC)
(2) Inrush current after a mains interruption of five seconds (Voltage changes caused at zero-crossing):
15 A peak, 3 A r.m.s. (240V AC)
Operating conditions
Temperature
0 °C to 35 °C (32 °F to 95 °F)
Recommended temperature
20 °C to 30 °C (68 °F to 86 °F)
Humidity 30% to 85% (no condensation)
Pressure 700 hPa to 1060 hPa
Storage and transport conditions
Temperature
–20 °C to +60 °C (–4 °F to +140 °F)
Humidity 0% to 90%
Pressure 700 hPa to 1060 hPa
Accessories supplied
AC power cord (1)
AC plug holder (1)
Operating Instructions (1)
CD-ROM (1)
Optional accessory
BKM-XP1 4K SxS Player

Design and specifications are subject to change without notice.

Notes
- Always verify that the unit is operating properly before use. SONY WILL NOT BE LIABLE FOR DAMAGES OF ANY KIND INCLUDING, BUT NOT LIMITED TO, COMPENSATION OR REIMBURSEMENT ON ACCOUNT OF THE LOSS OF PRESENT OR PROSPECTIVE PROFITS DUE TO FAILURE OF THIS UNIT, EITHER DURING THE WARRANTY PERIOD OR AFTER EXPIRATION OF THE WARRANTY, OR FOR ANY OTHER REASON WHATSOEVER.
- SONY WILL NOT BE LIABLE FOR CLAIMS OF ANY KIND MADE BY USERS OF THIS UNIT OR MADE BY THIRD PARTIES.
- SONY WILL NOT BE LIABLE FOR THE TERMINATION OR DISCONTINUATION OF ANY SERVICES RELATED TO THIS UNIT THAT MAY RESULT DUE TO CIRCUMSTANCES OF ANY KIND.

Available Signal Formats

The unit is applicable to the following signal formats.

Signal system	Signal format				
HD-SDI					
1920 × 1080/60[1)]I	4 : 2 : 2	YCbCr	10bit		
1920 × 1080/50I	4 : 2 : 2	YCbCr	10bit		
1920 × 1080/30[1)]P	4 : 2 : 2	YCbCr	10bit		
1920 × 1080/30[1)]PsF	4 : 2 : 2	YCbCr	10bit		
1920 × 1080/25P	4 : 2 : 2	YCbCr	10bit		
1920 × 1080/25PsF	4 : 2 : 2	YCbCr	10bit		
1920 × 1080/24[1)]P	4 : 2 : 2	YCbCr	10bit		
1920 × 1080/24[1)]PsF	4 : 2 : 2	YCbCr	10bit		
1280 × 720/60[1)]P	4 : 2 : 2	YCbCr	10bit		
1280 × 720/50P	4 : 2 : 2	YCbCr	10bit		
1280 × 720/30[1)]P	4 : 2 : 2	YCbCr	10bit		
1280 × 720/25P	4 : 2 : 2	YCbCr	10bit		
1280 × 720/24[1)]P	4 : 2 : 2	YCbCr	10bit		
2048 × 1080/30[1)]P	4 : 2 : 2	YCbCr	10bit		
2048 × 1080/30[1)]PsF	4 : 2 : 2	YCbCr	10bit		
2048 × 1080/25P	4 : 2 : 2	YCbCr	10bit		
2048 × 1080/25PsF	4 : 2 : 2	YCbCr	10bit		
2048 × 1080/24[1)]P	4 : 2 : 2	YCbCr	10bit		
2048 × 1080/24[1)]PsF	4 : 2 : 2	YCbCr	10bit		
Quad-Link HD-SDI[2)]					
3840 × 2160/30[1)]P	4 : 2 : 2	YCbCr	10bit		Square division
3840 × 2160/30[1)]PsF	4 : 2 : 2	YCbCr	10bit		Square division
3840 × 2160/25P	4 : 2 : 2	YCbCr	10bit		Square division
3840 × 2160/25PsF	4 : 2 : 2	YCbCr	10bit		Square division
3840 × 2160/24[1)]P	4 : 2 : 2	YCbCr	10bit		Square division
3840 × 2160/24[1)]PsF	4 : 2 : 2	YCbCr	10bit		Square division
4096 × 2160/30[1)]P	4 : 2 : 2	YCbCr	10bit		Square division
4096 × 2160/30[1)]PsF	4 : 2 : 2	YCbCr	10bit		Square division
4096 × 2160/25P	4 : 2 : 2	YCbCr	10bit		Square division
4096 × 2160/25PsF	4 : 2 : 2	YCbCr	10bit		Square division
4096 × 2160/24[1)]P	4 : 2 : 2	YCbCr	10bit		Square division
4096 × 2160/24[1)]PsF	4 : 2 : 2	YCbCr	10bit		Square division
3G-SDI					
1920 × 1080/60[1)]P	4 : 2 : 2	YCbCr	10bit	Level A / Level B-DL	
1920 × 1080/50P	4 : 2 : 2	YCbCr	10bit	Level A / Level B-DL	

Signal system	Signal format			
1920 × 1080/60[1)]I	4 : 4 : 4	RGB	10bit	Level A / Level B-DL
	4 : 4 : 4	YCbCr	10bit	
	4 : 4 : 4	RGB	12bit	
	4 : 4 : 4	YCbCr	12bit	
1920 × 1080/50I	4 : 4 : 4	RGB	10bit	Level A / Level B-DL
	4 : 4 : 4	YCbCr	10bit	
	4 : 4 : 4	RGB	12bit	
	4 : 4 : 4	YCbCr	12bit	
1920 × 1080/30[1)]P	4 : 4 : 4	RGB	10bit	Level A[8)] / Level B-DL
	4 : 4 : 4	YCbCr	10bit	
	4 : 4 : 4	RGB	12bit	
	4 : 4 : 4	YCbCr	12bit	
1920 × 1080/30[1)]PsF	4 : 4 : 4	RGB	10bit	Level A / Level B-DL
	4 : 4 : 4	YCbCr	10bit	
	4 : 4 : 4	RGB	12bit	
	4 : 4 : 4	YCbCr	12bit	
1920 × 1080/25P	4 : 4 : 4	RGB	10bit	Level A[8)] / Level B-DL
	4 : 4 : 4	YCbCr	10bit	
	4 : 4 : 4	RGB	12bit	
	4 : 4 : 4	YCbCr	12bit	
1920 × 1080/25PsF	4 : 4 : 4	RGB	10bit	Level A / Level B-DL
	4 : 4 : 4	YCbCr	10bit	
	4 : 4 : 4	RGB	12bit	
	4 : 4 : 4	YCbCr	12bit	
1920 × 1080/24[1)]P	4 : 4 : 4	RGB	10bit	Level A / Level B-DL
	4 : 4 : 4	YCbCr	10bit	
	4 : 4 : 4	RGB	12bit	
	4 : 4 : 4	YCbCr	12bit	
1920 × 1080/24[1)]PsF	4 : 4 : 4	RGB	10bit	Level A[8)] / Level B-DL
	4 : 4 : 4	YCbCr	10bit	
	4 : 4 : 4	RGB	12bit	
	4 : 4 : 4	YCbCr	12bit	
1280 × 720/60[1)]P	4 : 4 : 4	RGB	10bit	Level A
	4 : 4 : 4	YCbCr	10bit	
1280 × 720/50P	4 : 4 : 4	RGB	10bit	Level A
	4 : 4 : 4	YCbCr	10bit	
1280 × 720/30[1)]P	4 : 4 : 4	RGB	10bit	Level A[8)]
	4 : 4 : 4	YCbCr	10bit	
1280 × 720/25P	4 : 4 : 4	RGB	10bit	Level A
	4 : 4 : 4	YCbCr	10bit	
1280 × 720/24[1)]P	4 : 4 : 4	RGB	10bit	Level A
	4 : 4 : 4	YCbCr	10bit	
2048 × 1080/60[1)]P	4 : 2 : 2	YCbCr	10bit	Level A[8)] / Level B-DL
2048 × 1080/50P	4 : 2 : 2	YCbCr	10bit	Level A[8)] / Level B-DL

Signal system	Signal format			
2048 × 1080/48[1)]P	4 : 2 : 2	YCbCr	10bit	Level A[8)] / Level B-DL
2048 × 1080/30[1)]P	4 : 4 : 4	RGB	10bit	Level A[8)] / Level B-DL
	4 : 4 : 4	YCbCr	10bit	
	4 : 4 : 4	RGB	12bit	
	4 : 4 : 4	YCbCr	12bit	
2048 × 1080/30[1)]PsF	4 : 4 : 4	RGB	10bit	Level A[8)] / Level B-DL
	4 : 4 : 4	YCbCr	10bit	
	4 : 4 : 4	RGB	12bit	
	4 : 4 : 4	YCbCr	12bit	
2048 × 1080/25P	4 : 4 : 4	RGB	10bit	Level A[8)] / Level B-DL
	4 : 4 : 4	YCbCr	10bit	
	4 : 4 : 4	RGB	12bit	
	4 : 4 : 4	YCbCr	12bit	
2048 × 1080/25PsF	4 : 4 : 4	RGB	10bit	Level A[8)] / Level B-DL
	4 : 4 : 4	YCbCr	10bit	
	4 : 4 : 4	RGB	12bit	
	4 : 4 : 4	YCbCr	12bit	
2048 × 1080/24[1)]P	4 : 4 : 4	RGB	10bit	Level A[8)] / Level B-DL
	4 : 4 : 4	YCbCr	10bit	
	4 : 4 : 4	RGB	12bit	
	4 : 4 : 4	YCbCr	12bit	
2048 × 1080/24[1)]PsF	4 : 4 : 4	RGB	10bit	Level A[8)] / Level B-DL
	4 : 4 : 4	YCbCr	10bit	
	4 : 4 : 4	RGB	12bit	
	4 : 4 : 4	YCbCr	12bit	
Dual Link 3G-SDI[2)]				
1920 × 1080/60[1)]P[7)]	4 : 4 : 4	RGB	10bit	Level A / Level B-DL
	4 : 4 : 4	YCbCr	10bit	
	4 : 4 : 4	RGB	12bit	
	4 : 4 : 4	YCbCr	12bit	
1920 × 1080/50P[7)]	4 : 4 : 4	RGB	10bit	Level A / Level B-DL
	4 : 4 : 4	YCbCr	10bit	
	4 : 4 : 4	RGB	12bit	
	4 : 4 : 4	YCbCr	12bit	
2048 × 1080/60[1)]P[7)]	4 : 4 : 4	RGB	10bit	Level A[8)] / Level B-DL
	4 : 4 : 4	YCbCr	10bit	
	4 : 4 : 4	RGB	12bit	
	4 : 4 : 4	YCbCr	12bit	
2048 × 1080/50P[7)]	4 : 4 : 4	RGB	10bit	Level A[8)] / Level B-DL
	4 : 4 : 4	YCbCr	10bit	
	4 : 4 : 4	RGB	12bit	
	4 : 4 : 4	YCbCr	12bit	

Signal system	Signal format				
2048 × 1080/48[1)]P[7)]	4 : 4 : 4	RGB	10bit	Level A[8)] / Level B-DL	
	4 : 4 : 4	YCbCr	10bit		
	4 : 4 : 4	RGB	12bit		
	4 : 4 : 4	YCbCr	12bit		
3840 × 2160/30[1)]P	4 : 2 : 2	YCbCr	10bit	Level B-DS[3)]	2-sample interleave division[7)] / Square division
3840 × 2160/30[1)]PsF	4 : 2 : 2	YCbCr	10bit	Level B-DS	Square division
3840 × 2160/25P	4 : 2 : 2	YCbCr	10bit	Level B-DS[3)]	2-sample interleave division[7)] / Square division
3840 × 2160/25PsF	4 : 2 : 2	YCbCr	10bit	Level B-DS	Square division
3840 × 2160/24[1)]P	4 : 2 : 2	YCbCr	10bit	Level B-DS[3)]	2-sample interleave division[7)] / Square division
3840 × 2160/24[1)]PsF	4 : 2 : 2	YCbCr	10bit	Level B-DS	Square division
4096 × 2160/30[1)]P[7)]	4 : 2 : 2	YCbCr	10bit	Level B-DS[3)]	2-sample interleave division / Square division
4096 × 2160/30[1)]PsF[7)]	4 : 2 : 2	YCbCr	10bit	Level B-DS	Square division
4096 × 2160/25P[7)]	4 : 2 : 2	YCbCr	10bit	Level B-DS[3)]	2-sample interleave division / Square division
4096 × 2160/25PsF[7)]	4 : 2 : 2	YCbCr	10bit	Level B-DS	Square division
4096 × 2160/24[1)]P[7)]	4 : 2 : 2	YCbCr	10bit	Level B-DS[3)]	2-sample interleave division / Square division
4096 × 2160/24[1)]PsF[7)]	4 : 2 : 2	YCbCr	10bit	Level B-DS	Square division
Quad Link 3G-SDI[2)]					
3840 × 2160/60[1)]P	4 : 2 : 2	YCbCr	10bit	Level A / Level B-DL	2-sample interleave division[7)] / Square division
3840 × 2160/50P	4 : 2 : 2	YCbCr	10bit	Level A / Level B-DL	2-sample interleave division[7)] / Square division
3840 × 2160/30[1)]P	4 : 4 : 4	RGB	10bit	Level A[8)] / Level B-DL	2-sample interleave division[7)] / Square division
	4 : 4 : 4	YCbCr	10bit		
	4 : 4 : 4	RGB	12bit		
	4 : 4 : 4	YCbCr	12bit		
3840 × 2160/30[1)]PsF	4 : 4 : 4	RGB	10bit	Level A / Level B-DL	Square division
	4 : 4 : 4	YCbCr	10bit		
	4 : 4 : 4	RGB	12bit		
	4 : 4 : 4	YCbCr	12bit		
3840 × 2160/25P	4 : 4 : 4	RGB	10bit	Level A[8)] / Level B-DL	2-sample interleave division[7)] / Square division
	4 : 4 : 4	YCbCr	10bit		
	4 : 4 : 4	RGB	12bit		
	4 : 4 : 4	YCbCr	12bit		
3840 × 2160/25PsF	4 : 4 : 4	RGB	10bit	Level A / Level B-DL	Square division
	4 : 4 : 4	YCbCr	10bit		
	4 : 4 : 4	RGB	12bit		
	4 : 4 : 4	YCbCr	12bit		
3840 × 2160/24[1)]P	4 : 4 : 4	RGB	10bit	Level A / Level B-DL	2-sample interleave division[7)] / Square division
	4 : 4 : 4	YCbCr	10bit		
	4 : 4 : 4	RGB	12bit		
	4 : 4 : 4	YCbCr	12bit		
3840 × 2160/24[1)]PsF	4 : 4 : 4	RGB	10bit	Level A[8)] / Level B-DL	Square division
	4 : 4 : 4	YCbCr	10bit		
	4 : 4 : 4	RGB	12bit		
	4 : 4 : 4	YCbCr	12bit		

Signal system	Signal format			
4096 × 2160/60[1)]P	4 : 2 : 2	YCbCr	10bit	Level A[8)] / Level B-DL 2-sample interleave division[7)] / Square division
4096 × 2160/50P	4 : 2 : 2	YCbCr	10bit	Level A[8)] / Level B-DL 2-sample interleave division[7)] / Square division
4096 × 2160/48[1)]P	4 : 2 : 2	YCbCr	10bit	Level A[8)] / Level B-DL 2-sample interleave division[7)] / Square division
4096 × 2160/30[1)]P	4 : 4 : 4	RGB	10bit	Level A[8)] / Level B-DL 2-sample interleave division[7)] / Square division
	4 : 4 : 4	YCbCr	10bit	
	4 : 4 : 4	RGB	12bit	
	4 : 4 : 4	YCbCr	12bit	
4096 × 2160/30[1)]PsF	4 : 4 : 4	RGB	10bit	Level A[8)] / Level B-DL Square division
	4 : 4 : 4	YCbCr	10bit	
	4 : 4 : 4	RGB	12bit	
	4 : 4 : 4	YCbCr	12bit	
4096 × 2160/25P	4 : 4 : 4	RGB	10bit	Level A[8)] / Level B-DL 2-sample interleave division[7)] / Square division
	4 : 4 : 4	YCbCr	10bit	
	4 : 4 : 4	RGB	12bit	
	4 : 4 : 4	YCbCr	12bit	
4096 × 2160/25PsF	4 : 4 : 4	RGB	10bit	Level A[8)] / Level B-DL Square division
	4 : 4 : 4	YCbCr	10bit	
	4 : 4 : 4	RGB	12bit	
	4 : 4 : 4	YCbCr	12bit	
4096 × 2160/24[1)]P	4 : 4 : 4	RGB	10bit	Level A[8)] / Level B-DL 2-sample interleave division[7)] / Square division
	4 : 4 : 4	YCbCr	10bit	
	4 : 4 : 4	RGB	12bit	
	4 : 4 : 4	YCbCr	12bit	
4096 × 2160/24[1)]PsF	4 : 4 : 4	RGB	10bit	Level A[8)] / Level B-DL Square division
	4 : 4 : 4	YCbCr	10bit	
	4 : 4 : 4	RGB	12bit	
	4 : 4 : 4	YCbCr	12bit	
HDMI				
640 × 480P@60[1) 5)]	RGB 4 : 4 : 4 12/10/8bit[4)]			
	YCbCr 4 : 4 : 4 12/10/8bit[4)]			
	YCbCr 4 : 2 : 2 12bit[4)]			
720 × 480P@60[1) 5)]	RGB 4 : 4 : 4 12/10/8bit[4)]			
	YCbCr 4 : 4 : 4 12/10/8bit[4)]			
	YCbCr 4 : 2 : 2 12bit[4)]			
1280 × 720P@60[1)]	RGB 4 : 4 : 4 12/10/8bit[4)]			
	YCbCr 4 : 4 : 4 12/10/8bit[4)]			
	YCbCr 4 : 2 : 2 12bit[4)]			
1920 × 1080I@60[1)]	RGB 4 : 4 : 4 12/10/8bit[4)]			
	YCbCr 4 : 4 : 4 12/10/8bit[4)]			
	YCbCr 4 : 2 : 2 12bit[4)]			

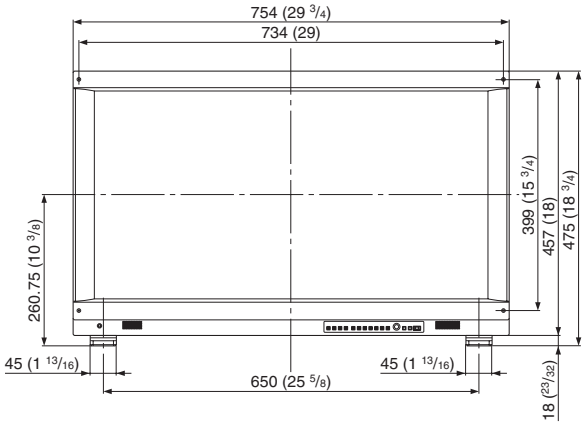
Signal system	Signal format
720 × 576P@50[5)]	RGB 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 2 : 2 12bit[4)]
1280 × 720P@50	RGB 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 2 : 2 12bit[4)]
1920 × 1080I@50	RGB 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 2 : 2 12bit[4)]
1920 × 1080P@60[1)]	RGB 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 2 : 2 12bit[4)]
1920 × 1080P@50	RGB 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 2 : 2 12bit[4)]
1920 × 1080P@30[1)]	RGB 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 2 : 2 12bit[4)]
1920 × 1080P@25	RGB 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 2 : 2 12bit[4)]
1920 × 1080P@24[1)]	RGB 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 2 : 2 12bit[4)]
2048 × 1080P@60[1)]	RGB 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 2 : 2 12bit[4)]
2048 × 1080P@50	RGB 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 2 : 2 12bit[4)]
2048 × 1080P@48[1)]	RGB 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 2 : 2 12bit[4)]
2048 × 1080P@30[1)]	RGB 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 2 : 2 12bit[4)]
2048 × 1080P@25	RGB 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 2 : 2 12bit[4)]

Signal system	Signal format
2048 × 1080P@24[1)]	RGB 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 2 : 2 12bit[4)]
3840 × 2160P@30[1)]	RGB 4 : 4 : 4 8bit[4)]
	YCbCr 4 : 4 : 4 8bit[4)]
	YCbCr 4 : 2 : 2 12bit[4)]
3840 × 2160P@25	RGB 4 : 4 : 4 8bit[4)]
	YCbCr 4 : 4 : 4 8bit[4)]
	YCbCr 4 : 2 : 2 12bit[4)]
3840 × 2160P@24[1)]	RGB 4 : 4 : 4 8bit[4)]
	YCbCr 4 : 4 : 4 8bit[4)]
	YCbCr 4 : 2 : 2 12bit[4)]
4096 × 2160P@30[1)]	RGB 4 : 4 : 4 8bit[4)]
	YCbCr 4 : 4 : 4 8bit[4)]
	YCbCr 4 : 2 : 2 12bit[4)]
4096 × 2160P@25	RGB 4 : 4 : 4 8bit[4)]
	YCbCr 4 : 4 : 4 8bit[4)]
	YCbCr 4 : 2 : 2 12bit[4)]
4096 × 2160P@24[1)]	RGB 4 : 4 : 4 8bit[4)]
	YCbCr 4 : 4 : 4 8bit[4)]
	YCbCr 4 : 2 : 2 12bit[4)]
800 × 600P@60[6)]	RGB 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 2 : 2 12bit[4)]
1024 × 768P@60[6)]	RGB 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 4 : 4 12/10/8bit[4)]
	YCbCr 4 : 2 : 2 12bit[4)]

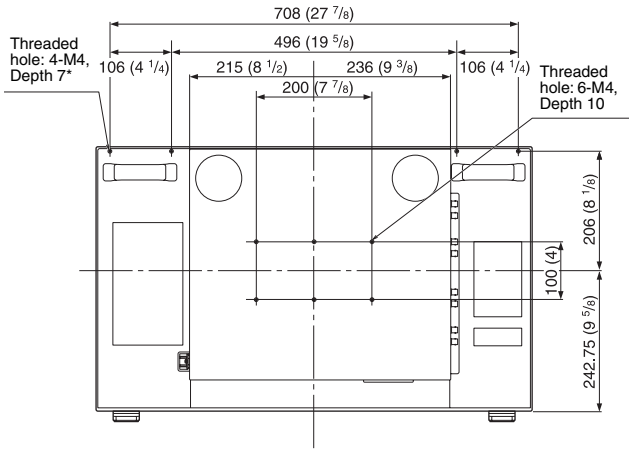
1) Also compatible with 1/1.001.
2) In this manual, the Square division signal is also referred to as the Quad Link 3G-SDI, Quad Link HD-SDI, or Dual Link 3G-SDI signal.
3) In case of Square division signal
4) RGB/YCbCr format and 8/10/12bit are selected automatically according to the input signal.
5) In this manual, the 640 × 480, 720 × 480 and 720 × 576 signals are referred to as the HDMI SD signals.
6) In this manual, the 800 × 600 and 1024 × 768 signals are referred to as the HDMI computer signals.
7) Signal connection currently being tested
8) Audio signal not supported

Dimensions

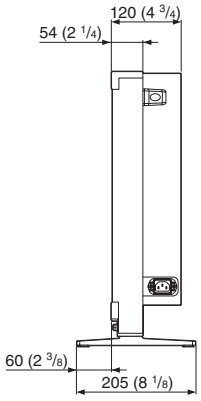
Front



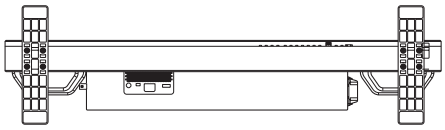
Rear



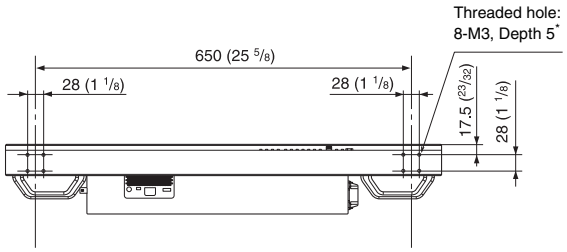
Side



Bottom



Without the stand



* for vehicle installation

unit: mm (inches)

Mass:
Approx. 17 kg (37 lb 8 oz)