Canon

Video Display

DP-V3010

Instruction Manual

- Before use, be sure to read this guide, including the safety and handling precautions.
- Reading this guide will help you learn to use the video display properly.
- Store this guide safely so that you can use it in the future.

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Introduction

Thank you for purchasing the Video Display DP-V3010.

The On Screen Display (thereafter referred to OSD) default language setting is English. To change the OSD menu language setting, please refer to p. 50.

About this manual

Some of the illustration used in the manual have been simplified for clarity.

Conventions used in this manual

: Indicates a reference page.

Note: Indicates a note.

i Reference: Indicates reference information.

CAUTION: Indicates an item you must observe.

Trademarks

- DisplayPort and VESA are registered trademarks or trademarks of Video Electronics Standards Association in the U.S and other countries.
- Adobe and Reader are registered trademarks of Adobe Systems Incorporated in the United States and other countries.
- Other product and company names herein are trademarks or registered trademarks of their respective owners.

Safety Precautions

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.

Do not make any changes or modifications to the equipment unless otherwise specified in the manual. If such changes or modifications should be made, you could be required to stop operation of the equipment.

Use of shielded cable is required to comply with class A limits in 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.

Canon U.S.A Inc.
One Canon Park, Melville, NY 11747, U.S.A.
Tel No. (631)330-5000

For the customers in Canada

CAN ICES-3 (A) / NMB-3 (A)

For the customers in Europe

This product may cause interference if used in residential areas. Such use must be avoided unless the user takes special measures to reduce electromagnetic emissions to prevent interference to the reception of radio and television broadcasts.

CANON INC.

30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo 146-8501, Japan

CANON EUROPA N.V.

Bovenkerkerweg 59, 1185 XB Amstelveen, The Netherlands



Only for European Union and EEA (Norway, Iceland and Liechtenstein)

This symbol indicates that this product is not to be disposed of with your household waste, according to the WEEE Directive (2012/19/EU) and national legislation. This product should be handed over to a designated collection point, e.g., on an authorized one-for-one basis when you buy a new similar product or to an authorized collection site for recycling waste electrical and electronic equipment (EEE). Improper handling of this type of waste could have a possible negative impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE. At the same time, your cooperation in the correct disposal of this product will contribute to the effective usage of natural resources. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, waste authority, approved WEEE scheme or your household waste disposal service. For more information regarding return and recycling of WEEE products, please visit

www.canon-europe.com/weee.

Handling Precautions

Places to avoid using the video display

Do not use the video display in the following places or conditions.

- Places with excessive dust or humidity
- Places that will expose the video display to direct sunlight, smoke (such as from a kerosene heater or other such source) or steam
- Near heat sources, humidifiers or flammable gas
- Near a window during rain or snow
- Near water or other places that could cause moisture to form on the video display

Screen Handling

- The screen may be damaged if it is left facing strong source of light. Please take precautions when placing it near a window.
- Do not press firmly on the screen, scratch it or place an object on the screen. It can cause non-uniformity or damage to the panel.
- The screen and cabinet may become warm during use. Note this does not constitute a malfunction.

About Backlight

The backlight has a limited service life so its brightness may degrade and color may change due to aging.

About Temporary Screen burn-in

If a stationary image is displayed for a prolonged period, screen burn-in may occur where you see remnants of what was displayed. This is a characteristic of LCD and is not a failure. However, this is only temporary and will disappear when playing video.

About the LCD screen

The screen is produced using extremely high-precision manufacturing techniques, with more than 99.99% of the pixels operating to specification. Less than 0.01% of the pixels may occasionally misfire or appear as black, red, blue or green dots. In addition, this tendency may increase through long term use due to characteristic of the LCD panel. These do not constitute a malfunction.

Condensation

If this equipment is brought into a warm room while it is cold or if the room is heated suddenly, condensation may form on the surface or inside the equipment. Note that the equipment may be damaged if it is used under such condition. If condensation has formed on the surface or inside the equipment, do not use the video display as it may get damaged. Turn the power off and wait until the condensation has evaporated before using the video display.

Cleaning

- Before cleaning, please unplug the power plug from the wall outlet.
- The screen has a special surface treatment, avoid touching it directly with your hand. In addition, never affix adhesive objects such as seals.
- Never use alcohol or benzene, thinner, acidic cleaning solution, alkaline cleaning solution, abrasive or chemical wipes because these will damage the screen.
- If the screen is dirty, wipe gently with soft dry cloth such as cleaning cloth or eye glasses cleaning cloth. Wiping the screen too hard may cause unevenness on the screen or damage the LCD panel. The screen may be scratched if wiped too hard with a cleaning cloth with foreign particles attached.
- When the screen is extremely dirty, wipe with soft cloth such as cleaning cloth or eye glasses cleaning cloth moistened with water-diluted neutral detergent.
- Use a blower to remove dust from the surface of the screen.
- Since the part of the cabinet surrounding the screen has a special surface treatment, wiping off the area may fade its surface color.
- Wipe dirt on cabinet with a soft cloth. If the screen is very dirty, use a moistened cloth with water or mild detergent diluted with water. Do not use alcohol, benzene, paint thinner, or pesticides as they may damage the surface finish or erase characters on the cabinet.

Disposing

- Do not dispose together with normal waste. Do not include the video display in waste that will be taken to landfill.
- Observe the rules and regulations of your local authorities when disposing.

Features

DP-V3010 video display is packed with the essence of Canon's image-making know-how such as high-definition IPS LCD panel, display engine and backlight technology. It provides optimal performance and functions in the field of video production such as color grading and VFX (Visual Effects).

Faithful Color Reproduction

The display features a Canon-designed RGB LED backlight system and IPS LCD panel which reproduce a rich array of colors. Besides the DCI (Digital Cinema Initiatives) color gamut, it is also ideally suited to displaying the color gamuts of a multiple number of other broadcast standards, namely, ITU-R BT.709, ITU-R BT.2020, EBU, SMPTE-C and Adobe RGB.

High-Resolution/High Definition

4K content is displayed dot-by-dot with 10.5 megapixels resolution (4096x2560) and 157.5 µm pixel pitch.

High Contrast

DCI-P3 standard contrast ratio of 2000:1 or greater is achieved by adopting image processing technology implemented through the use of high contrast panel and Canon's proprietary algorithm.

Aspect Ratio Suitable for Video Production (16:10)

The aspect ratio enables dot-by-dot display of digital cinema (1.896:1) or HDTV broadcast (16:9) contents for color grading work, as well as display standard PC signal (16:10) in full, which is ideal for VFX work.

2K/Full-HD High Definition View

Canon's proprietary algorithm reduces jagged lines and produces smooth display when expanding 2K/Full-HD content.

Specialized Performance and Functions for Video Production Display

- Interconnectivity with CINEMA EOS SYSTEM
 For color gamut settings, "Cinema Gamut to 709", "Cinema Gamut to DCI", "DCI-P3+ to 709", and "DCI-P3+ to DCI" are incorporated in order to monitor Cinema Gamut and DCI-P3+ video that EOS C500/C500PL of the CINEMA EOS SYSTEM supports. In addition, "Canon Log", a picture mode to best view Canon Log, is incorporated.
- ACESproxy (ACES System Ver. 0.7) support
 "ACES (Academy Color Encoding System)" is a workflow for video production proposed by the AMPAS (Academy of Motion Picture Arts and Sciences), and "ACESproxy" is the standard for transmitting ACES in SDI format. The ACES workflow can be supported by linking with the EOS C500/500 PL.
- ASC CDL Support
 Color adjustment using CDL (Color Decision List) recommended by ASC (American Society of Cinematographers) enables the consistent application of the color parameters from production to post-production.
- LUT Import Support
 Easy importing of 1D/3D-LUT makes it possible to recreate the same color and gradation expression sought after by producers at shooting locations.
- Backlight Scan
 "Blurred video" specific to LCD panel is reduced by integrating the Backlight Scan feature, which partially turns off the backlight area and reduces the image hold period when displaying images.

• Calibration without a PC

Calibration can be performed easily without the use of dedicated application. Calibration enables brightness and color to maintain factory default settings. You can also adjust the video display condition to match your requirements, purpose, and the ambient light.

Operability

All settings are possible with display controller operation. Minimum necessary operations are also possible from the main unit, providing means of operation depending on the use cases. In addition, the OSD menu provides instant view of configurations.

Essential Functions as a Video Production Display

- Multiple Display Functions
 Provides display functions such as markers, time code, and test patterns which are required for visual confirmation.
- Supports Interface for Video Production
 Equipped with 3G/HD-SDI terminal that is standard in the broadcast industry and DisplayPort terminal used in PC with high resolution.
- Multiple Format Support
 Supports 1280x720 / 24.00P, 25.00P, 30.00P, 50.00P, 60.00P to 4096x2160 / 24.00P, 25.00P, 30.00P, 48.00P,
 50.00P, 60.00P, 50.00i, 60.00i SDI and 640x480 to 4096x2560 DisplayPort signals to enable viewing of a variety of signal.
- Equipment Design Enabling Effective Use of Space

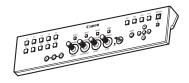
 The space-saving installation against a wall is possible thanks to the proprietary heat dissipation.

Supplied Accessories

The following items are supplied with this product. Please check before using.



AC Power Cord VT-20



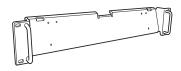
Display Controller CL-01



LAN Cable LN-30 (3 m)



Compact Power Adapter CA-PS700 and AC cable



Rack Mount Bracket RB-01



Rack Mount Bracket Screw SW-02 (M3 x 6 mm x 4)



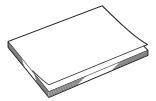
Hex Key HK-01 (Allen wrench 3 mm)



Tip Prevention Fitting TP-01 (M6 x 10 mm x 2)



Instruction Manual Disc*



DP-V3010 Instruction Manual (this document)

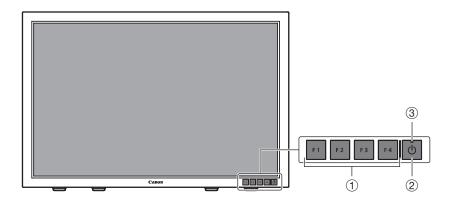
This disc contains the Japanese, English, French, German, and Simplified Chinese instruction manuals in PDF format. Adobe Reader 11.0 or above must be installed on your computer to view the instruction manuals in PDF format.

^{*} Instruction Manual Disc

Nomenclature

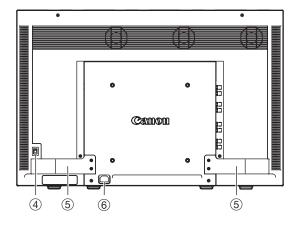
Main Unit

■ Front



		ï	
1	F1 to F4 button	Executes the defined function. The following functions have been assigned at the factory. These functions can be changed if necessary. F1: Channel UP F2: Channel DOWN F3: Time Code (On/Off) F4: Aspect Marker (On/Off)	2 5
2	U button (Power button)	Turns power On/Off.	22
3	Power indicator	Displays the status of the main unit. The brightness of the power indicator can also be set from "1 (dark) to 5 (brightest)". Even when the power indicator is "Off", it will flash during firmware upgrade, network settings reset, or when an error is detected. Off: main power supply off Green lit: main power supply/Power on Green flash: during calibration, firmware upgrade, or network settings reset in progress Amber lit: standby (Main power supply on and power supply off) Amber flash: when error is detected	□ 51 □ 80

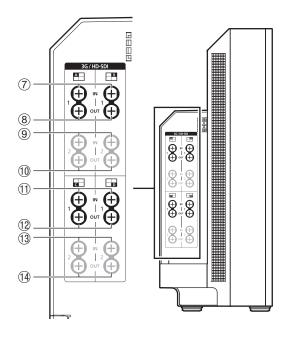
■ Rear



Main power supply switch Turns n		1 ' ' '	Turns main power supply On/Off.	2 2
	(5)	Handle	Use for carrying the main unit.	_
	6	AC power input terminal	Connects to AC power supply cord.	22

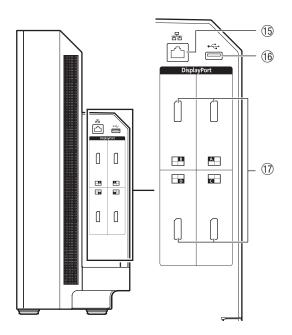
■ Interface

Left side



711	3G/HD-SDI input terminal 1	Two input systems corresponding to input 1.	
812	3G/HD-SDI output terminal 1	Monitor output corresponding to ①①	
913	3G/HD-SDI input terminal 2	Two input systems corresponding to input 2.	
1014	3G/HD-SDI output terminal 2	Monitor output corresponding to 9(3)	

Right side



_			
	15	LAN (10/100 BASE) terminal	Connects to display controller. The main unit connects 1 to 1 with the display controller. It can also be connected via a hub.
	16	USB port	Used to connect external sensor for calibration (\$\subseteq\$28) or USB memory for export/import (\$\subseteq\$29).
	17)	DisplayPort input terminal	One input system available.

CAUTION

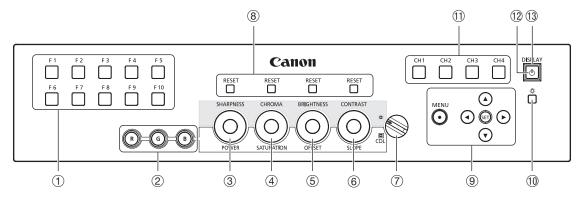
- When connecting an external sensor for calibration to the USB port, cable length must not exceed 3 m. Otherwise, communication error may occur and correct calibration may not be possible.
- Directly connect external sensors and USB memory without using a hub.

Note

- Dual Link HD-SDI is used for connecting two input systems (16, 17)
- Both FAT16 and FAT32 USB memory devices are supported.
- Proper operation cannot be guaranteed for all USB memories.
- It may take 10 seconds or more for the USB memory to be recognized. When "Settings Export/Import" is executed while the USB memory is being recognized, the message "Detecting USB memory." will be displayed.

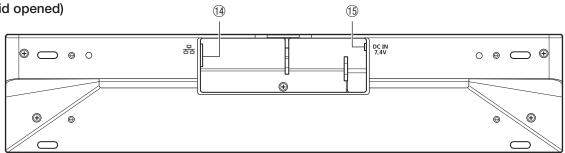
Display Controller

■ Front



1	F1-F10 buttons	Executes the assigned function.		
2	RGB select button (when using CDL)	Selects and adjusts RGB during CDL adjustment.		
3	SHARPNESS knob (normal use)	Adjusts the sharpness of the Image. Provides the same control as the ▲ ▼ buttons in the OSD menu.		
	POWER knob (when using CDL)	Adjusts the power of the image.		
4	CHROMA knob (normal use)	Adjust the color saturation of the image.	f the Provides the same control as the Pound buttons in the OSD menu.	
	SATURATION knob (when using CDL)	Adjusts the SATURATION of the image.		<u></u>
(5)	BRIGHTNESS knob (normal use)	Adjusts the black level of the image).	<u>27</u>
	OFFSET knob (when using CDL)	Adjusts the OFFSET of the image.		
6	CONTRAST knob (normal use)	Adjusts the white level of the image).	
	SLOPE knob (when using CDL)	Adjusts the SLOPE of the image.		
7	CDL select switch	Switches between normal and CDL	_ mode.	
8	RESET button	Returns adjustments ③ to ⑥ to default value. When adjusting the values using the slider in the OSD menu, press the RESET button above SHARPNESS or CHROMA to return to the default value.		
9	MENU button	Opens/closes the OSD menu, or moves up one level in a menu.		
	▲▼ ◀▶	Moves the selection frame within the OSD menu. Changes settings.		
	SET button	Confirms an OSD menu setting or moves the selection frame up/down 1 level. When the OSD menu is closed, displays various banners.		□ 26 □ 27
10	- \$\times\$ button	Sets the button brightness. Rotates among Off→1 (dark)→2 (normal)→3 (bright) each time button is pressed. Even when the power indicator (①) is off, it will flash during firmware upgrade, network settings reset, or when an error is detected.		
11)	CH1-CH4 buttons	Changes channel.		
12	(button (Power button)	Turns the power of main unit On/Off.		
13	Power indicator	Off: power off Green On: main power supply of display/Power on / during calibration Green flash: When main unit power is turned on from the display controller, during firmware upgrade, or network settings reset in progress Amber On: main power of display is off/standby or when not paired. Amber flash: when error is detected		-

■ Rear (lid opened)



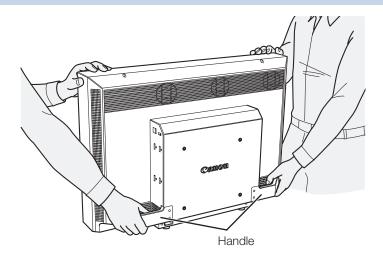
14)	LAN terminal	Connects the main unit to the display controller using a LAN cable.	1 19
15	DC IN terminal	Connects to compact power adapter CA-PS700.	ы 19

Installation/Connection

How to Carry the Main Unit

CAUTION

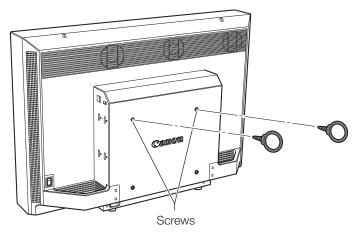
- When unpacking or carrying this main unit, please note that at least two people are required.
- Please carry the main unit as illustrated in the figure below. Please take particular care as the main unit may tilt and cause injury or get damaged, when carried.



Preventing from Tipping

The supplied tip prevention fitting TP-01 can be used to significantly reduce the risk of the main unit tipping or falling. Make sure to complete the power and input device connections beforehand.

- 1. Remove two top screws at the rear of the main unit using the supplied hex key HK-01. Do not lose the removed screw. Do not use these screws for other purposes.
- 2. Insert the tip prevention fitting TP-01 into the two top screw holes and secure.



3. Pass a safety strap through the ring of the tip prevention fitting TP-01 and secure to the wall or stand.

CAUTION

- When securing the main unit to a stand, please ensure the stand is strong enough to carry the weight of the main unit.
- Do not move the main unit after it is secured.

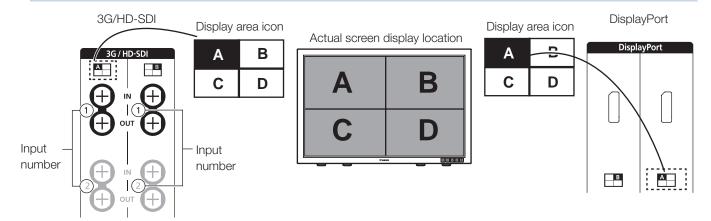
Connecting the Main Unit to Input Devices

This main unit has four inputs which correspond to a display area. The display area icons located in the input terminal area shows where the input video is displayed on the screen. Please ensure these are connected correctly as indicated by the icons.

In addition, SDI has two I/O systems. Please ensure these are connected correctly according to the input number.

CAUTION

- Check that the main power of the main unit and input devices is switched off before connecting.
- For safety, do not connect connector that may have excessive voltage to the terminal of this main unit when connecting peripheral devices.



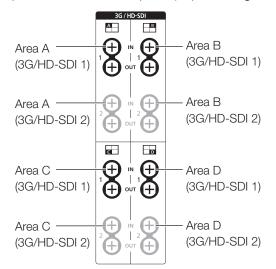
■ 4K or QFHD signals input through SDI

Displays using 4 inputs.

3G/HD-SDI

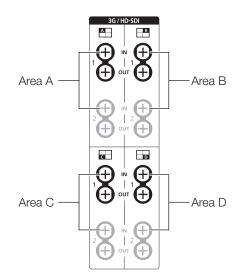
3G/HD-SDI supports two input systems. Input 3G/HD-SDI 1 to input 1,

Input 3G/HD-SDI 2 to input 2 ("Input Configuration" 40).



Dual Link HD-SDI

Input Link A signal to input 1, Link B signal to input 2.



■ 2K or Full-HD signals input through SDI

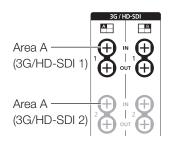
Displays using 1 input. To center the displayed content, select "Channel Settings" \rightarrow "Select Input Signal" \rightarrow "Single Input" and select the area to display from A to D (\square 40).

3G/HD-SDI

3G/HD-SDI supports two input systems.

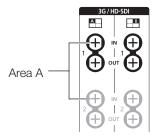
Input 3G/HD-SDI 1 to input 1.

Input 3G/HD-SDI 2 to input 2 ("Input Configuration" 40).



Dual Link HD-SDI

Input Link A signal to input 1, Link B signal to input 2.

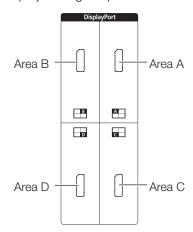


i Reference

• The connection is checked using Canare Corp. BNC cable (multi) 4VS03A-5C.

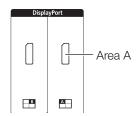
■ 4K or QFHD signals input through DisplayPort

Displays using 4 inputs.



■ 2K or Full-HD signals input through DisplayPort

Displays using 1 input. To center the displayed content, select "Channel Settings" \rightarrow "Select Input Signal" \rightarrow "Single Input" and select the area to display from A to D (\square 40).



When connecting with the DisplayPort cable, use the cable with the following wiring specifications.

DisplayPort male	DisplayPort male	DisplayPort male	DisplayPort male
1	 12	11	2
2 ———	 11	12 ———	1
3 ———	10	13 ———	13
4	9	14	
5 ———	8	15 ———	15
6 ———	 7	16 ———	16
7 ———	 6	17 ———	 17
8	 5	18 ———	18
9 ———	4	19 ———	19
10 ———	3	SHELL	SHELL

CAUTION

• Be sure to use shielded type cable no longer than 3 m in order to prevent malfunction due to noise.

i Reference

• The connection is confirmed using ELECOM DisplayPort cable CAC-DP30BK.

Connecting the Main Unit to the Display Controller

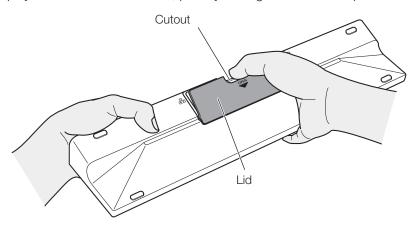
This section describes how to connect the main unit to the display controller.

CAUTION

• When using a commercially available LAN cable, please use a shielded type cable no longer than 3 m in order to prevent malfunction due to noise.

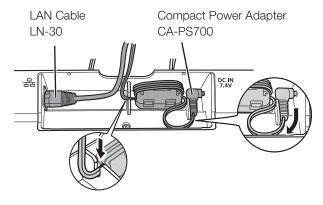
1. Open the lid on the back of the display controller.

While holding the display controller with one hand, place your finger in the cutout portion of the lid and pull forward.



2. Connect the supplied LAN cable LN-30 and the compact power adapter CA-PS700.

Insert the connector of the LAN cable LN-30 and plug of the compact power adapter CA-PS700 as shown in the figure below. Use the cutout section to pass the cables, as illustrated.



3. Close the lid with cables hanging out from the cutout area.



4. Connect the other end of the LAN cable to the LAN terminal of the main unit.

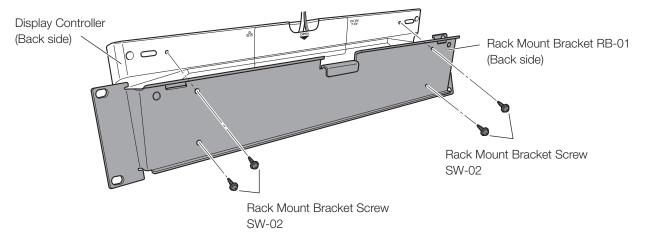
Installing the Display Controller on the Rack

The display controller can be installed on an EIA standard compliant 19-inch rack.

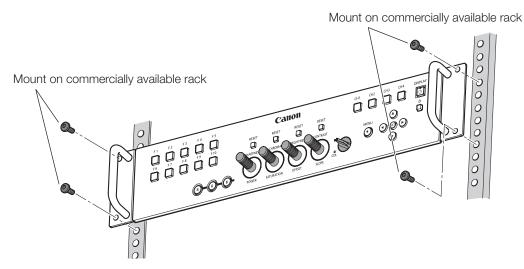
CAUTION

- Make sure that the display controller does not fall during installation/removal.
- 1. Place the display controller on the rack mount bracket RB-01 as shown in the figure and match the screw holes.

Make sure the cable does not get caught in the rack mount bracket during installing.



- 2. Insert the rack mount bracket screw SW-02 into the rack mount bracket screw holes at the back and tighten the screws to secure the display controller.
- 3. Mount the display controller on the rack using commercially available rack mount bracket screws. Use screws appropriate for the rack.



Mounting the Main Unit on a Stand or Wall

This main unit can be fitted to a stand* or to a wall mount bracket*.

Screws compatible with this main unit are M6 x 10 mm (VESA Standard 200 x 200 mm).

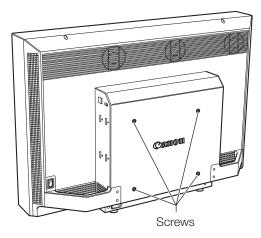
* Commercially available.

CAUTION

- Make sure to perform this step, with at least two people.
- When mounting the main unit on a wall, make sure the wall has sufficient strength. If necessary, apply reinforcement. Also, make sure to check the load capacity of the stand or wall mount bracket.
- Make sure that the main unit does not fall during installation/removal.

1. Remove four screws at the rear of the main unit using the supplied hex key HK-01.

Do not lose the removed screw. Do not use these screws for other purposes.



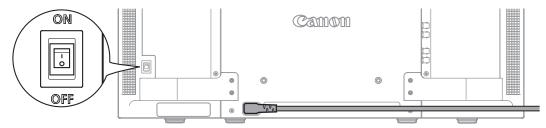
2. Mount the main unit on a stand or wall mount bracket.

Turning on the Power

This section describes how to turn on the power of the main unit.

Turning on the Power of the Main Unit

1. Plug the AC power cord VT-20 to the power supply input terminal at the rear of the main unit.



2. Turn on the main power supply switch (I) at the back.

The main unit goes into standby and the power indicator flashes amber.

3. Press the power supply button (1) at the front.

The power indicator lights green.



• Warming-up is necessary to stabilize the brightness of the video display. Wait at least 10 minutes after turning on the power before using.

Turning on Main Unit Power from the Display Controller

The power button on the display controller remotely turns On/Off the power of the main unit instead of turning On/Off the display controller.

- 1. Connect the main unit to the display controller (119).
- 2. Press the Power button () on the display controller.

The power indicator of the display controller flashes green and then lights.

Note

• The power indicator on the display controller is lit amber when the main power of the main unit is off/standby. Even when it is lit, the main power of the main unit cannot be turned on/off from the display controller if the main power of the main unit is off.

Pairing

This section describes how to pair the main unit with the display controller for the first time after purchase and how to pair these devices again.

Pairing the Main Unit with the Display Controller

The main unit and display controller is connected 1 to 1 and an operation to recognize each other (pairing) is necessary. Perform this operation after installing the main unit and display controller.

- 1. Connect the main unit to the display controller (119).
- 2. Turn on the power of the main unit ("Turning on the Power of the Main Unit" (22)).

This automatically completes pairing and the power indicator of the display controller lights green.

Note

- Directly pair the main unit and the display controller and then connect to your network environment. Correct pairing may not be possible when multiple devices are connected to the network.
- If the button brightness setting of the display controller is sets to Off, it will not turn on when pairing completes. Set the button brightness to 1, 2 or 3 if you want to verify when pairing completes (213).
- Manually configure the "IP Address" and "Subnet Mask" as necessary (450).

Re-pairing

Pairing must be performed once more for example when a paired display controller is reconnected. The procedure is as follows:

- 1. Connect the main unit to the display controller (219).
- 2. Enable communication between the main unit and the display controller. Reset the network settings of the main unit.

To reset the pairing information, press and hold the main unit's F3 and F4 buttons simultaneously for about 3 seconds until the power indicator flashes green and "Configure an IP Address" is set to "Automatic".

Reset the network settings of the display controller.

To reset the pairing information, press and hold the display controller's ◀▶, and SET buttons simultaneously for about 3 seconds until the power indicator flashes green.

When resetting of pairing information is finished for both units and re-pairing is complete, the power indicator of the display controller lights green.

Note

- Directly pair the main unit and the display controller and then connect to your network environment. Correct pairing may not be possible when multiple devices are connected to the network.
- If the button brightness setting of the display controller is sets to Off, it will not turn on when pairing completes. Set the button brightness to 1, 2 or 3 if you want to verify when pairing completes (213).
- Manually configure the "IP Address" and "Subnet Mask" as necessary (4 50).

Operating the Display Controller

The display controller allows you to easily adjust the input signal settings and image quality. In addition, you can assign the frequently used functions to dedicated buttons.

Adjusting the Image Quality

1. Adjust the image quality by rotating each knob.

Use the slider that appears at the bottom of the screen as guide.

SHARPNESS

Adjusts the sharpness of the image.

CHROMA

Adjusts the color saturation of the image.

BRIGHTNESS

Adjusts the black level of the image.

CONTRAST

Adjusts the white level of the image.

Adjusting the Image Quality on ASC CDL

- 1. Switch the CDL select switch to CDL.
- 2. Use the RGB select button to select the color to adjust.
- 3. Adjust the image quality by rotating each knob.
 - POWER

Adjusts the POWER of the image.

SATURATION

Adjusts the SATURATION of the image. RGB cannot be selected for SATURATION.

OFFSET

Adjusts the OFFSET of the image.

SLOPE

Adjusts the SLOPE of the image.

Item	Setting options (underline indicates the factory default)	
POWER	0.50 to 4.00 (1.00) (Increments of 0.01)	
SATURATION	0.000 to 2.000 (1.000) (Increments of 0.001)	
OFFSET	-1.000 to 1.000 (0.000) (Increments of 0.001)	
SLOPE	0.000 to 2.000 (<u>1.000</u>) (Increments of 0.001)	

Note

- Press the RESET button above the relevant adjustment, to return to factory default. In "User 1-7" mode where you are performing calibration, the setting returns to the value after calibration instead of the factory default.
- Warming-up is necessary to stabilize the brightness of the video display. Wait at least 10 minutes after turning on the power before using.
- If no operation is performed for approximately 1 minute, OSD menu will disappear automatically. The slider will disappear automatically if no operation is performed for approximately 10 seconds.
- The settings that cannot be set, are grayed out.
- CDL parameters are discarded in the following cases:
 - When power of main unit is turned off
 - When calibration has been started
 - When the channel is changed using the CH button, F button assigned for Channel UP/Channel DOWN, or "Select Channel" under "Channel Settings"
 - When changing "Input Configuration" or "Select Input Signal" under "Channel Settings"
 - When "Reset All Settings" is executed

Temporarily Saving Parameters (Anchor Point Setting)

Temporarily saves parameters while adjusting SHARPNESS, CHROMA, BRIGHTNESS, and CONTRAST allows you to bring those parameters back.

- 1. Press the MENU button to open the OSD menu (27).
- 2. Select "Adjustment" with the ▲▼ buttons and press the SET button.

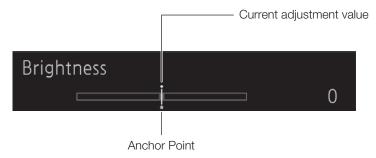
The selection frame moves to sub menu.

3. Select " Anchor Adjustment" with the ▲▼ buttons and press the SET button.

When the confirmation screen appears, select "OK". The parameter is saved and sets anchor point.

4. After readjusting the image quality, press the RESET button above the relevant adjustment on the display controller.

Press the RESET button above the relevant adjustment to return to each saved anchor point.



Note

• When selecting "Reset" under "Adjustment" or "Reset All Settings" under "System Settings", any saved anchor points are discarded and the settings return to their factory default values.

Using the Function (F) Buttons

You can assign functions to the F buttons on the display controller to execute them instantly.

- 1. Press the MENU button to open the OSD menu.
- 2. Select "System Settings"→"Display Controller Function" and press the SET button.

A new window opens and displays button names F1 to F10.

3. Select a button name with the ▲▼ buttons and press the SET button.

The selection frame moves to next OSD menu level.

Select the function to assign with ▲▼.

See "Display Controller Function" (451) for the available functions.

5. Press the SET button.

The setting is confirmed.

i Reference

- You can also assign functions to buttons F1 to F4 on the main unit. Select "Display Function" in step 2 (450).
- Select "Function Settings" → "Various Function" and set "Function Guide" to "On", then to check the list of functions assigned to an F button on the main unit and display controller, press the SET button or an F button while OSD is closed (□ 48).

Using the Channel (CH) Button

You can assign channels (various settings related to input signal) to the CH buttons on the display controller and switch channels instantly.

- 1. Press the MENU button to open the OSD menu.
- 2. Select "System Settings"→"Display Controller Channel" and press the SET button.

A new window opens and displays button names CH1 to CH4.

3. Select a button name with the ▲▼ buttons and press the SET button.

The selection frame moves to next OSD menu level.

Select the channel to assign with ▲▼.

See "Channel Settings" (440) for the configurable settings.

5. Press the SET button.

The setting is confirmed.

The channel buttons on the display controller are preset with the following factory defaults.

	CH1	CH2	CH3	CH4
Input Configuration	3G/HD-SDI 1	3G/HD-SDI 2	Dual Link HD-SDI	DisplayPort
Select Input Signal	4K Input	4K Input	4K Input	4K Input
Format	Automatic	Automatic	Automatic	Automatic
Color Range	Full	Full	Full	Automatic
Internal Sync	Off	Off	Off	Off
Picture Mode	DCI-P3	DCI-P3	DCI-P3	DCI-P3
Channel Name	(Blank)	(Blank)	(Blank)	(Blank)

Checking Signal Information and Status of the Main Unit

The video display is equipped with a banner function which displays signal information or the status of the main unit.

1. Press the SET button when the OSD menu is closed.

The channel name, signal information, and status of the main unit will be displayed in the banner. It will automatically disappear after 4 seconds.



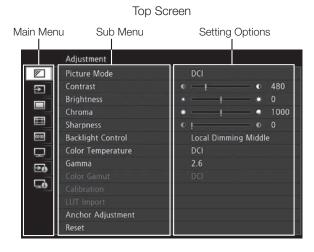
- For more detailed signal information, please refer to the section on "Signal Information" (\$\subseteq\$53).
- The "Detecting sync." banner will continue to appear until the input signal is synchronized.

Using the OSD Menu

You can access the OSD menu from the display controller.

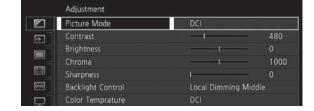
Basic Operation

1. Press the MENU button to open the OSD menu.



Select an item with the ▲▼ buttons and press the SET button.

The selection frame moves to sub menu.



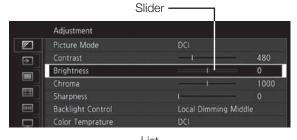
3. Select an item with the ▲▼ buttons and press the SET button.

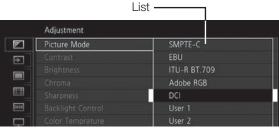
The selection frame moves to setting options.

4. Select the setting with the ▲▼ ◀▶ buttons.

The button function for selecting the setting is as follows:

	Slider		List	
◀ ▶			▼	
	Decreases value	Increases value	Scrolls up the OSD menu	Scrolls down the OSD menu





5. Press the SET button.

The selection frame returns to sub menu.

6. Exit menu.

When you press the MENU button, the selection frame moves up one menu level. Move the selection frame all the way to the main menu on the top screen and then press the MENU button to exit the menu.

Adjusting Image Quality While Viewing the Entire Image

You can adjust the OSD menu to display as a slider at the bottom of the screen. This allows for the image quality to be adjusted whilst it is displayed on the screen. The following items can be adjusted:

- Contrast
- Brightness
- Chroma
- Sharpness
- Color Temperature (x, y)
- 1. Press the SET button when the selection frame is on setting options. A slider appears at the bottom of the screen.
- 2. Use the slider as guide and adjust with ▲▼ ◀ ▶ buttons.
- 3. Press the SET button when finished.

The screen returns to the original OSD menu.



Calibration without a PC (238)

When "User 1-7" is selected in "Picture Mode", you can adjust the image quality to the desired target value set in the OSD menu using an external sensor.

The supported external sensors are Konika Minolta Display Color Analyzers CA-310 and CA-210. Be sure to also read the instruction manual of the CA-310 and CA-210.

- 1. Connect the display color analyzer to the USB port of the main unit.
- 2. Open the OSD menu and select "Adjustment"→"Calibration". Set each target value.
- 3. Select "Start" with the SET button.

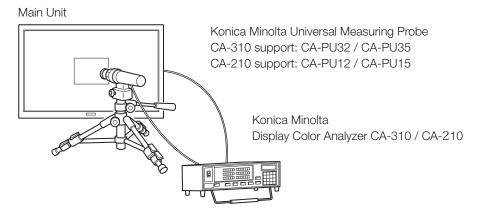
Please follow the information indicated on the screen.

4. Initialize the sensor.

Set the mode dial of the Universal Measuring Probe to "0-CAL". Select "OK" with the SET button on the and perform initialization.

5. Place the sensor facing the center of the main unit.

Set the mode dial of the Universal Measuring Probe to "MEAS" and place the probe as shown below according to the displayed content. Select "OK" with the SET button on the display controller and perform calibration.



6. Finish calibration.

When the message "Calibration is completed." appears, select "OK" with the SET button.

- If the message "Calibration error." is displayed.

 Calibration has been terminated due to an error. The main unit returns to the state before calibration.
- To cancel calibration Select "Cancel" with the SET button during calibration. The main unit returns to the state before calibration.

Note

- Due to the characteristic of LCD panel and individual difference of CA-310 and CA-210, the calibration results may differ.
- Perform matrix calibration of the display color analyzer prior to calibration. If calibration is performed without performing matrix calibration, an error may occur. Refer to the CA-310 and CA-210 instruction manual for the detail operation.
- Warming-up is necessary to stabilize the brightness of the video display. Wait at least 10 minutes after turning on the power before calibration.
- Perform calibration in a dark room so that no external light enters the sensor. If external light enters the sensor, low brightness characteristics cannot be calibrated correctly.

Export/Import

You can export/import LUT and ASC CDL parameters as well as main menu settings. Insert a USB memory stick into the USB port of the main unit.

■ LUT Import (□38)

This can be performed when "User 1-7" or "Canon Log" is selected for "Picture Mode".

- 1. Press the MENU button to open the OSD menu.
- 2. Select "Adjustment"→"LUT Import".
- 3. Select the file type of the LUT.

Select the file type of the LUT by using "Gamma" or "Color Gamut".

4. Select a file.

In the "File Name" field, search and display a file with extension ".clut" in the root folder.

5. Select the standard color gamut.

Select the color gamut used when creating the LUT (when "Color Gamut" under "LUT Type" is selected).

6. Select "Execute".

When the confirmation screen appears, select "OK". Import starts.

Note

- The LUT file is proprietary to Canon Video Display. Refer to the Canon website for the file format and how to create.
- Up to 1000 LUT import files are recognized.

- Export/Import Main Menu Settings (□ 49)
- 1. Press the MENU button to open the OSD menu.
- 2. Select "Function Settings"→"Settings Export/Import".
- 3. Select "Export" or "Import" with the ▲▼ buttons.
- 4. Select "Execute".

When the confirmation screen appears, select "OK". Export/Import starts.

Exporting

Select "Execute" to save the file "dinfo.dat" to the root folder. If the same file name already exists, it will be overwritten.

Importing

Select "All" or "Main Menu Name" in "Settings" and then select "Execute" to import "dinfo.dat" from the root folder.

- Export/Import ASC CDL Parameters (□ 51)
- 1. Press the MENU button to open the OSD menu.
- 2. Select "System Settings"→"Display Controller Function".

Select the F button to configure and assign "CDL Export/Import".

- 3. Press the assigned F button and select "Export" or "Import" with ▲▼ buttons.
- 4. Select "Execute".

When the confirmation screen appears, select "OK". Export/Import starts.

Exporting

Select a file format ".ccc" or ".cdl" and then select "Execute" to save to the root folder.

Importing

Select a file with extension ".ccc" or ".cdl" from the root folder and then select "Execute" to import the file.

i Reference

- When exporting, the file is saved automatically with the file name "cdl_000 to 999 (consecutive number)" and the selected file format (e.g. cdl_000.ccc).
- Up to 1000 CDL import files are recognized.
- For ".cdl" format files, the settings of "Picture Mode" are exported in addition to CDL parameters. When imported, the settings of "Picture Mode" will be applied.
- In the following conditions, data in ".cdl" format exported from this product cannot be imported to products of which firmware version is earlier than the version of this product. To import data, update the firmware to the latest version.
 - Picture Mode: ITU-R BT.2020, ACESproxy
 - Color Temperature: D60, Gain R/G/B, Bias R/G/B
 - Gamma: Canon Log to DCI 1.2
 - Color Gamut: ITU-R BT.2020, Cinema Gamut to 709, Cinema Gamut to DCI, DCI-P3+ to 709, DCI-P3+ to DCI
- It may be convenient to assign the "CDL Save to Memory" to an F button from the "Display Controller Function" of the OSD menu for channel switching (451). The temporarily saved content is erased when power is turned off.

Set Date/Time (51)

This section describes how to set the Date/Time. The Date/Time of this video display will be reset if the main power is turned off for about 20 days.

- 1. Press the MENU button to open the OSD menu.
- 2. Select "System Settings"→"Date/Time".

A screen to input the Date/Time appears.

3. Press the **◆** ▶ buttons to move the selection frame.

Use the ▲▼ buttons to change the numeric value. Repeat until you complete setting the year, month, date, hour, and minute.

4. Press the SET button when you are finished.

The selection frame moves to "OK".

5. Check the content and press the SET button to confirm settings.

i Reference

• When selecting "Cancel" or pressing MENU button before selecting "OK", the settings will be discarded and the previous screen will be displayed.

Inputting Characters

This section describes how to input the characters. Use this when specifying "Channel Name" and "Display Name".

- 1. Press the MENU button to open the OSD menu.
- 2. The character input screen appears automatically when character input is required.

Use the ◀▶ buttons to move the selection frame as required.

3. Press the **T** buttons to select the required character.

The following characters can be selected: Press
buttons to display them one by one. You can input up to 16 characters.

```
Alphanumeric characters: A to Z, a to z, 0 to 9 Symbols: , . : ; ' ` - + / = % & ! ? # _ | $ ^ ~ @ { } [ ] < > ( ) space
```

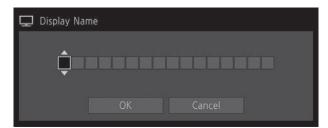
- 4. Repeat steps 2 and 3 until the desired text has been inputted.
- 5. Press the SET button when input is complete.

The selection frame moves to "OK".

6. Check the content and press the SET button to confirm settings.

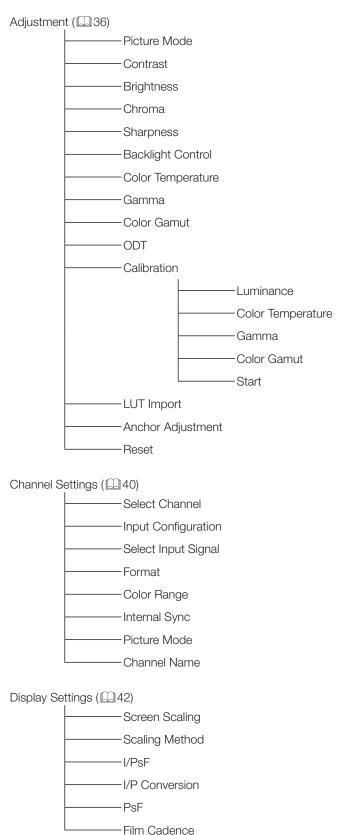
i Reference

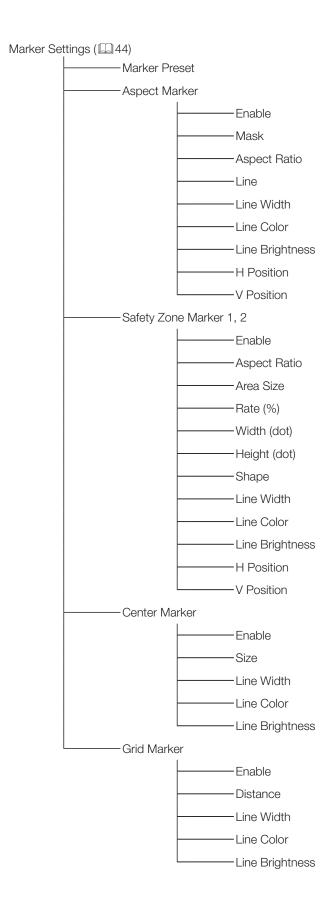
- When selecting "Cancel" or pressing MENU button before selecting "OK", the settings will be discarded and the previous screen will be displayed.
- Factory default is all blank.
- Previously inputted text is displayed for the second and subsequent times.
- To erase the character in the selection frame, press the RESET button above SHARPNESS or CHROMA.

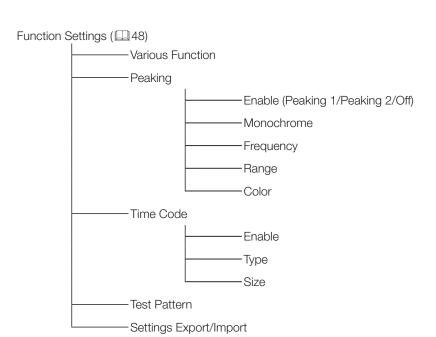


OSD Menu

OSD Menu Index







-Export -Import

System Settings (50) Network Language Display Function Display Controller Function Display Controller Channel Display Name Date/Time Power Indicator Brightness Protect Settings Knob Lock

Reset All Settings

Signal Information (53)		
Channel		
Input Co	onfiguration	
Select Ir	put Signal	
Format		
Resolution	on	
Picture F	Picture Rate, I/P/PsF	
SDI Payload ID		
Video Standard		
Sampling Structure		
Bit Depth		
Picture F	Picture Rate	
Scanning	Scanning Method	
Link Nur	Link Number	
Horizont	Horizontal Frequency	
Vertical F	Vertical Frequency	
Pixel End	Pixel Encoding	
Color De	Color Depth	
Matrix G	Matrix Gamma	
RGB Range		
System Information (4)53)		
Display	Model Name	
———— Display	Serial No.	
Display	Firmware Ver.	
Display	Usage Time	
Display	IP Address	
Display	Subnet Mask	

Display MAC Address

- Display Controller Model Name
- Display Controller Serial No.
- Display Controller Firmware Ver.
- Display Controller IP Address
- Display Controller Subnet Mask
- Display Controller MAC Address

Adjustment

This menu is used to adjust the image quality and perform calibration without a PC.

Item	Setting Options (underline indicates factory default)
Picture Mode	Select a preset mode. See 39 for each setting. SMPTE-C, EBU, ITU-R BT.709, ITU-R BT.2020, Adobe RGB, DCI-P3: Mode set to the brightness, color temperature, gamma, and color gamut of the three primary colors chromaticity points of each standard. User 1-7: Custom modes. Set each item of "Adjustment". Canon Log: Canon Log is ideal when viewing image captured with CINEMA EOS SYSTEM camera/ video camera. Performs linear conversion and displays Canon Log video without having to import Viewing LUT. ACESproxy: A mode to display ACESproxy (ACES System Ver. 0.7) videos recorded by the EOS C500/C500 PL of the CINEMA EOS SYSTEM in optimum gamma and color gamut.
Contrast	Adjusts the white level of the image. (Increments of 1) 0 to 2000
Brightness	Adjusts the black level of the image. (Increments of 1) -500 to 500
Chroma	Adjusts the color saturation of the image (color depth). (Increments of 1) 0 to 2000
Sharpness	Adjusts the sharpness of the image. (Increments of 1) 0 to 100
Backlight Control	Switches the backlight control method. Local Dimming (High, Middle, Low): Local dimming is a technology to control the amount of light emitted by the backlight for each area. The backlight of bright area is increased and the dark area is decreased according to the displayed content. Contrast increases as local dimming increases ("High"). Global Dimming: Global dimming is the ability to control the amount of light emitted by the backlight on the entire screen. If the image is dark, the whole display is darken. Off: No backlight dimming.
	 When "Global Dimming" is selected, the contrast may change temporarily in order to maintain gradation depending on the image. If this is undesirable, turn it "Off" and see if it improves.
Color Temperature	Sets the color temperature. D93, D65, D61, D60, D56, D50, DCI-P3: Select from preset color temperatures. Gain R/G/B, Bias R/G/B: Can be adjusted in increments of 1 when a preset color temperature is selected. Gain R/G/B: 0 to 1023 (in increments of 1) Bias R/G/B: -500 to 500 (in increments of 1) Custom: If you make adjustments by "x, y", the "Custom" mode automatically starts. x, y: You can adjust CIE x, y in increments of 0.001. x: 0.260 to 0.360 (in 0.001 increments) y: 0.260 to 0.360 (in 0.001 increments)
	Note
	 "x, y" and "Gain R/G/B" or "Bias R/G/B" cannot be selected at the same time. If "x, y" are modified after adjusting "Gain R/G/B" or "Bias R/G/B" then both these values will return to factory default.
	 When "Gain R/G/B" or "Bias R/G/B" value is adjusted, an asterisk "*" is displayed by color temperature preset mode.
	The displayed color coordinates (x, y) are just a guide and not guaranteed absolute values.

Item	Setting Options (underlin	ne indicates factory default)
Gamma	Sets the Gamma. 2.2, 2.35, 2.4, 2.6, Canon Log to WideDR 1.1, Canon Log to DCI 1.2: Select a preset gamma. "Canon Log to WideDR 1.1" supports "LUT (Look-up Table) for Canon Log Gamma and Canon Log ** to WideDR ** LUT Version 1.1"*. "Canon Log to DCI 1.2" supports "LUT (Look-up Table) for Canon Log Gamma and Canon Log ** to DCI (Gamma 2.6) ** LUT Version 1.2"*. User LUT: When "User 1-7" or "Canon Log" is selected for "Picture Mode", load an external LUT and configure. *: Asterisk "**" indicates the bit count of LUT for the CINEMA EOS SYSTEM downloaded from Canon website.	
Color Gamut	each standard. Cinema Gamut to 709, Cinema Gamut to DCI the color gamut is converted to monitor Cinema C C500/C500 PL of the CINEMA EOS SYSTEM. Native: Color gamut that can be displayed by this User LUT: Sets by loading an external LUT. Note When "ITU-R BT.2020", "Cinema Gamut to 7	D, Adobe RGB, DCI-P3: Color gamut compliant to I, DCI-P3+ to 709, DCI-P3+ to DCI: Modes where Gamut and DCI-P3+ video recorded by the EOS is video display. TO9", "Cinema Gamut to DCI", "DCI-P3+ to 709" is converted and displayed on the DP-V3010 as
	Color gamut of input video	Color gamut after conversion on the DP-V3010
	ITU-R BT.2020	Native
	Cinema Gamut to 709	ITU-R BT.709
	Cinema Gamut to DCI	DCI-P3
	DCI-P3+ to 709	ITU-R BT.709
	DCI-P3+ to DCI	DCI-P3
ODT	This is displayed instead of "Gamma" and "Color mode". DCI-P3, ITU-R BT.709: ACESproxy is converted	gamut" when "ACESproxy" is selected for "Picture linto respective mode.

	Item	Setting Options (underline indicates factory default)
Calibratio	on	Performs calibration based on set target values when "User 1-7" is selected for "Picture Mode".
		When "Luminance" is set to high brightness, it may be calibrated beyond the brightness adjustment range and set lower than the target value depending on the "Color Temperature" setting. In that case, set the "Luminance" again.
	Luminance	Sets the target brightness. 48 to 200 cd/m²
	Color Temperature	Sets the target color temperature. D93, D65, D61, D60, D56, D50, DCI-P3: Select from preset color temperatures. Custom: If you make adjustments by "x, y", the "Custom" mode automatically starts. x, y: You can adjust CIE x, y in increments of 0.001. x: 0.260 to 0.360 (in 0.001 increments) y: 0.260 to 0.360 (in 0.001 increments)
	Gamma	Sets the target gamma. 2.2, 2.35, 2.4, 2.6, Canon Log to WideDR 1.1
	Color Gamut	Sets the target color gamut. SMPTE-C, EBU, ITU-R BT.709, Adobe RGB, DCI-P3, Native
	Start	Performs calibration.
LUT Import		LUT can be imported when "User 1-7" or "Canon Log" is selected for "Picture Mode". LUT Type (Gamma, Color Gamut): Select the LUT type. File Name: Select a file. Base Color Gamut (SMPTE-C, EBU, ITU-R BT.709, Adobe RGB, DCI-P3, Native): Select the color gamut used when creating the LUT (when "Color Gamut" under "LUT Type" is selected). Execute: Performs import.
Anchor A	Adjustment	Temporarily saves parameters while adjusting SHARPNESS, CHROMA, BRIGHTNESS, and CONTRAST (anchor point setting). OK: Performs anchor point setting. Cancel: Returns to the previous screen without setting anchor point.
Reset		Return "Picture Mode" to factory default. Note that in "User 1-7" mode where you are performing calibration, the setting returns to the value after calibration instead of the factory default. When selected, the message "Reset Adjustment settings to defaults?" appears. OK: Performs reset. Cancel: Returns to the previous screen without resetting.
		 ❖ Deleting imported LUT When you select "OK" for "Reset" and the resetting process is completed, a message is displayed to ask you if you want to delete the LUT. Erase: The LUT will be deleted. Cancel: You can go back to the top screen without deleting the LUT.

The factory default settings for each "Picture Mode" is as follows:

Item		SMPTE-C	EBU	ITU-R BT. 709	ITU-R BT.2020	Adobe RGB
Contrast		1000	1000	1000	1000	1000
Brightness		0	0	0	0	0
Chroma		1000	1000	1000	1000	1000
Sharpness		0	0	0	0	0
Local Dimmin	ig	Middle	Middle	Middle	Middle	Middle
Color	Preset	D65	D65	D65	D65	D65
Temperature	×	0.313	0.313	0.313	0.313	0.313
	у	0.329	0.329	0.329	0.329	0.329
	Gain R/G/B	1023	1023	1023	1023	1023
	Bias R/G/B	0	0	0	0	0
Gamma		2.2	2.35	2.2	2.2	2.2
Color Gamut		SMPTE-C	EBU	ITU-R BT.709	ITU-R BT.2020	Adobe RGB
ODT		_	-	-	-	-

Item		DCI-P3	User 1-7	Canon Log	ACESproxy
Contrast		480	480	1000	480
Brightness		0	0	0	0
Chroma		1000	1000	1000	1000
Sharpness		0	0	0	0
Local Dimmin	g	Middle	Middle	Middle	Middle
Color	Preset	DCI-P3	DCI-P3	D65	D60
Temperature	×	0.314	0.314	0.313	0.322
	у	0.351	0.351	0.329	0.338
	Gain R/G/B	1023	1023	1023	1023
	Bias R/G/B	0	0	0	0
Gamma		2.6	2.6	Canon Log to WideDR 1.1	-
Color Gamut		DCI-P3	DCI-P3	ITU-R BT.709	-
ODT		_	_	_	DCI-P3

Channel Settings

This menu is used for input related settings. Select the "Select Channel" and choose a channel number from CH1 to CH30. Finally define the parameter of each of the "Channel Settings".

Item	Setting Options (underline indicates factory default)
Select Channel	Display the channel number. In addition, you can assign each content of "Channel Settings" to each channel (41). CH1 to CH30
	Note
	It may take 10 seconds when switching channels.
Input Configuration	Select the input. Factory default depend on the channel (41). 3G/HD-SDI 1, 3G/HD-SDI 2, Dual Link HD-SDI, 3G-SDI 1, 3G-SDI 2, HD-SDI 1, HD-SDI-2, DisplayPort, — (Not set)
Select Input Signal	Sets the signal display method (416). 4K Input: Displays the signal transmitted over four inputs.
	Single Input: Displays the signal of a single input onto the center of the screen. Select from A to D.
Format	Sets the color format and gradation. Automatic, 4:2:2 YCbCr 10-bit, 4:2:2 YCbCr 12-bit, 4:4:4 YCbCr 10-bit, 4:4:4 YCbCr 12-bit, 4:4:4 RGB 10-bit, 4:4:4 RGB 12-bit, 4:4:4 XYZ 12-bit
	Note Not
	HD-SDI is fixed to "4:2:2 YCbCr 10-bit".
	DisplayPort is fixed to "Automatic".
	 If set to "Automatic" when receiving 3G-SDI or Dual Link HD-SDI input, all four signals without a payload format will be rendered in "4:4:4 RGB 10-bit". In addition, if there is one Payload or more of the four inputs, they are rendered in a Payload that is selected in the order of priority A → B → C → D in the display area.

Item	Setting Options (underline indicates factory default)	
Color Range	Sets the quantization range. • SDI Signal Full: Sets to Black level: 0; White level: 1023 (10-bit)/4095 (12-bit).	
	Limit Range 1: Limits the black and white range. Black level: 64 (10-bit)/256 (12-bit) White Level: 940 (10-bit)/3760 (12-bit)	
	Limit Range 2: Limits black range. Black level: 64 (10-bit)/256 (12-bit) White Level: 1023 (10-bit)/4095 (12-bit) • DisplayPort Signal Automatic: Automatically switches the quantization range. Full: Sets to Black level: 0; White level: 1023 (10-bit)/4095 (12-bit). Limit Range 1: Limits the black and white range. Black level: 64 (10-bit)/256 (12-bit)	
Internal Sync	White Level: 940 (10-bit)/3760 (12-bit) Synchronizes four inputs for "4K Input". On: Force synchronization. Off: Do not force synchronization.	
Picture Mode	Sets the "Picture Mode".	
Channel Name	Sets the name of the selected channel. You can input up to 16 alphanumeric characters.	

The factory default settings for each channel is shown in the following table.

	CH1	CH2	СНЗ	CH4	CH5 to CH30
Input Configuration	3G/HD-SDI 1	3G/HD-SDI 2	Dual Link HD-SDI	DisplayPort	_
Select Input Signal	4K Input	4K Input	4K Input	4K Input	4K Input
Format	Automatic	Automatic	Automatic	Automatic	Automatic
Color Range	Full	Full	Full	Automatic	Full
Internal Sync	Off	Off	Off	Off	Off
Picture Mode	DCI-P3	DCI-P3	DCI-P3	DCI-P3	DCI-P3
Channel Name	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)

-: not set

Display Settings

This menu is used to configure the display method.

Item	Setting Options (underline indicates factory default)
Screen Scaling	Defines how the video is scaled and displayed on the screen (174 – 76). Native Input Resolution: Displays the input signal without scaling.
	1920x1080 (original)
	200%: Doubles the vertical and horizontal dimensions.
	1920×1080→3840×2160
	Automatic: Enlarges to full screen.
	1920x1080→4096x2304
	Note
	When "H Delay"/"V Delay" is "On", "Screen Scaling" is fixed to "Native Input Resolution".

Item	Setting Options (underline indicates factory default)
Scaling Method	Sets the interpolation method when "Screen Scaling" is set to "200%" or "Automatic". Shape Trace: Canon original processing that produces smooth slopes with reduced jagged lines.
	Bicubic : General interpolation process that uses neighboring pixel information to create interpolated pixels.
	Nearest Neighbor: Process that uses nearest neighbor pixel information to create (copy) new pixels. This is useful as it enlarges the original pixels, thus making any jagged lines visible.
	 Note When "H Delay"/"V Delay" is "On", "Scaling Method" is not performed.
I/PsF	Defines how the interlace signal or PsF signal is displayed. Automatic: Automatically determined based on payload and displayed. If there is no payload, the signal is displayed as an interlace signal. Interlace: Displayed as an interlace signal. PsF: Displayed as a PsF signal.
I/P Conversion	Sets the interlaced signal I/P conversion method. Image Priority: This mode gives priority to image quality. Processing time will be longer than "Speed Priority". Speed Priority: This mode gives priority to speed.
PsF	Defines how the PsF signal is displayed. Progressive: Interpolates giving preference to image quality by detecting paired fields. Interlace: Interpolates using two adjacent fields giving priority to speed.
	Note
Film Cadence	 When "PsF" is set to "Interlaced", "I/P Conversion" is fixed to "Image Priority". Sets the film cadence mode (77). 2-2: Displays progressive image after conversion for 2-2 pulldown processed interlaced signal input. 2-3: Displays progressive image after conversion for 2-3 pulldown processed interlaced signal input. 2-3-3-2: Displays progressive image after conversion for 2-3-3-2 pulldown processed interlaced signal input. Off: Does not perform film cadence mode progressive conversion.
	Note
	This can be set only when "I/P Conversion" is set to "Image Priority".

Marker Settings

This menu is used to configure various markers.

Item	Setting Options (underline indicates factory default)
Marker Preset	Customizes markers which are assigned to markers 1 to 5. Marker 1 to 5
Aspect Marker	An aspect marker displays a range in accordance with the specified aspect ratio.
	Note Aspect marker is not displayed in the following cases:
	 When there is no signal, unsupported signal, or a channel with "Input Configuration" not set is selected When "H Delay"/"V Delay" is "On" When a "Test Pattern" is displayed When "Peaking 1" or "Peaking 2" is selected
Enable	Switches the aspect marker On, Off. On, Off
Mask	Switches the mask color. Mask is the blanking area outside the range of the marker. Black:
	Half (50% gray): Off: Turns mask off.
Aspect Ratio	Sets the aspect ratio of the aspect marker. 16:9, 15:9, 14:9, 13:9, 4:3, 2.39:1, 2.35:1, 1.896:1, 1.85:1, 1.66:1, Variable The aspect ratio can be entered as a numeric value when you select "Variable" (0.01:1 increments). The grayed out slider becomes active and can be used to set the aspect ratio. 1.00:1 to 3.00:1 (1.78:1)
Line	Active when "Black" or "Half" is selected for "Mask". Switches lines on mask On, Off. On, Off
Line Width	Sets the thickness of the aspect marker line. Thick, Normal, Thin

	Item	Setting Options (underline indicates factory default)
	Line Color	Sets the color of the aspect marker line. White, Red, Green, Blue, Yellow, Cyan, Magenta
	Line Brightness	Sets the brightness of the aspect marker line. High, Low
	H Position	Changes horizontal position without changing the aspect65 to 65 (0)
	V Position	Changes vertical position without changing the aspect. -35 to 35 (0)
Safety Z	one Marker 1, 2	There are two types of safety zone marker: 1 and 2, which share the same settings. A safety zone marker is used to set the safe zone of the image (actual displayed area) to check the image.
		Note Safety zone marker is not displayed in the following cases:
		When there is no signal, unsupported signal, or a channel with "Input Configuration" not set is selected.
		When "H Delay"/"V Delay" is "On"
		When a "Test Pattern" is displayed
		When "Peaking 1" or "Peaking 2" is selected
	Enable	Switches the safety zone marker On, Off. On, Off
	Aspect Ratio	Sets the aspect ratio of the safety zone marker. 16:9, 15:9, 14:9, 13:9, 4:3, 2.39:1, 2.35:1, 1.896:1, 1.85:1, 1.66:1, Variable The aspect ratio can be entered as a numeric value when you select "Variable" (0.01:1 increments). The grayed out slider becomes active and can be used to set the aspect ratio. 1.00:1 to 3.00:1 (1.78:1)
		When "Area Size" is set to "Variable (dot)", you cannot select "Aspect Ratio".
	Area Size	Sets the safety zone marker area size. 80%, 88%, 90%, 93%, Variable (%), Variable (dot) When "Variable (%)" is selected, the grayed out "Rate (%)" becomes active. When "Variable (dot)" is selected, the grayed out "Width (dot)" and "Height (dot)" become active. This can be set by moving the slider.
	Rate (%)	Becomes active when you select "Variable (%)" under the menu "Area Size". Move the slider to set the displayed marker area size without changing the aspect ratio in 1 % increments. 50 to 100 (80)
	Width (dot)	Becomes active when you select "Variable (dot)" under the menu "Area Size". Move the slider to set the area width in 2 dot increment. 360 to 4096 (3276)
	Height (dot)	Becomes active when you select "Variable (dot)" under the menu "Area Size". Move the slider to set the area height in 2 dot increment. 240 to 2560 (1728)

Item	Setting Options (underline indicates factory default)
Shape	Sets the area shape of the safety zone marker. Box: Bracket: C
Line Width	Sets the width of the safety zone marker line. Thick, Normal, Thin
Line Color	Sets the color of the safety zone marker line. White, Red, Green, Blue, Yellow, Cyan, Magenta
Line Brightness	Sets the brightness of the safety zone marker line. High, Low
H Position	Adjusts the marker horizontal position with the set aspect and size. -65 to 65 (0)
V Position	Adjusts the marker vertical position with the set aspect and size. -35 to 35 (0)

Item		Setting Options (underline indicates factory default)			
Center Marker		The center marker shows the center of the image.			
		 Note • "Center Marker" cannot be displayed when "Peaking 1" or "Peaking 2" is selected. 			
Enabl	ole	Switches the center marker On, Off. On, Off			
Size		Sets the size of the center marker. Large, Small			
Line V	Width	Sets the width of the center marker line. Thick, Normal, Thin			
Line (Color	Sets the color of the center marker line. White, Red, Green, Blue, Yellow, Cyan, Magenta			
Line Bright	ntness	Sets the brightness of the center marker line. High, Low			
Grid Marker		Grid markers are markers used to check the horizontal and vertical position. Note			
		"Grid Marker" cannot be displayed when "Peaking 1" or "Peaking 2" is selected.			
Enab	ble	Switches the grid marker On, Off. On, Off			
Dista	ance	Sets the horizontal and vertical line distance. 160 dots, 240 dots, 320 dots			
Line	Width	Sets the width of the grid marker line. Thick, Normal, Thin			
Line	Color	Sets the color of the grid marker line. White, Red, Green, Blue, Yellow, Cyan, Magenta			
Line Brigh	htness	Sets the brightness of the grid marker line. High, Low			

Function Settings

This menu is used to display, define and apply various functions.

Item		Setting Options (underline indicates factory default)			
Various Function		Displays the function list to execute functions. Monochrome, Blue Only, Red Off, Green Off, Blue Off, H Delay, V Delay, Backlight Scan, Show OSD*1, Banner*2, Function Guide*3, OSD Position*4, CDL Override*5			
		* ¹ Show OSD			
		 On: Displays all OSD. Off: Hides OSD when adjusting SHARPNESS / CHROMA / BRIGHTNESS / CONTRAST or CDL from the display controller. *2 Banner 			
		When "Banner" is set to "Off", the banner is displayed only when you press the SET button while OSD is closed. *3 Function Guide			
		When "Function Guide" is set to "On", you can display the list of functions assigned to an F button on the main unit and display controller by pressing the SET button or an F button while OSD is closed.			
		** OSD Position Mode1: OSD is displayed at a position aligned with the four corners of the screen. Mode2: OSD is displayed slightly centrally as compared to Mode1. ** CDL Override			
		When "CDL Override" is set to "On", you can temporarily disable the CDL adjustment result and return to the image quality before adjustment. When returned to the image quality before adjustment, you cannot adjust the POWER, SATURATION, OFFSET, or SLOPE.			
		Note			
		"H Delay"/"V Delay" can be set only for SDI signal.			
		 When "H Delay" is "ON", the image display position can be adjusted using the display controller's ◀► for video in 1280x720 / 24.00P, 25.00P, 30.00P format. Adjust with the menu screen closed. 			
		When checking the blanking area using "H Delay"/"V Delay", an audio signal check can be performed, however some data is not displayed.			
Peaking		Customizes peakings which are assigned to Peaking 1 or Peaking 2. The outline is displayed in a color, used to check the focus.			
E	nable	Switches the peaking display mode and also sets peaking to Off. Peaking 1, Peaking 2, Off			
		■ Peaking 1, 2 Monochrome: Displays video in monochrome. On, Off Frequency: Sets the central frequency of contour enhancement signals. Peaking 1 (High, Middle, Low), Peaking 2 (High, Middle, Low) Range: Sets the width of the range to be colored. -3 ~ +3 (0) Color: Sets the color to be used.			

Item		Setting Options (underline indicates factory default)			
Time Code		Display the time code superimposed on the SDI signal. VIIC 01:23:45.05 Note			
	Enable	Switches the time code display On, Off. On, Off			
	Туре	Selects the type. VITC, LTC			
	Size	Selects the size. Large, Small			
		 White, Gray (20%), Black, Ramp, 5 Step, Color Bars, PLUGE, Off Note If the power is turned off once and then back on, the test pattern will not be displayed. The test pattern will be erased in the following cases: When calibration has been started When the channel is changed using the CH button, F button assigned for Channel UP/ Channel DOWN, or "Select Channel" under "Channel Settings" When changing "Input Configuration" or "Select Input Signal" under "Channel Settings" When "Reset All Settings" is executed 			
Settings Export/Import		Sets the export/import main menu settings. Note The following settings cannot be exported or imported. This is also true when "All" is selected. "Calibration" of "Adjustment" (including calibration result) "CDL Override" and "Test Pattern" of "Function Settings" "Date/Time" of "System Settings" Settings of CDL Data exported from this product may not be imported to products of which firmware version is earlier than the version of this product. To import data, update the firmware to the latest version.			
	Export	Execute: Performs export.			
Import		Settings (All, Adjustment, Channel Settings, Display Settings, Marker Settings, Function Settings, System Settings): Select the setting to import. Execute: Performs import.			

System Settings

This menu is used to set the settings related to the main unit and display controller system.

Item		Setting Options (underline indicates factory default)			
Network		Sets the main unit and display controller network settings.			
	onfigure an IP ddress	Automatic: Configures an IP address automatically with DHCP/Automatic IP. Manual: Configure an IP address and subnet mask manually.			
Di	isplay	192.168.0.1			
	isplay ontroller	192.168.0.10			
Su	ubnet Mask	255.255.255.0			
Language		Sets the language of the OSD menu and messages. English, 日本語, 簡体中文			
Display Fund	ction	Sets the function to assign to the F buttons of the main unit. Select an F button and assign a function from the following list. The factory defaults for the main unit F buttons is as follow: F1: Channel UP F2: Channel DOWN F3: Time Code (On, Off) F4: Aspect Marker (On, Off) The following functions can also be assigned: Monochrome/Blue Only/Red Off/Green Off/Blue Off (On, Off) Backlight Control(Local Dimming (High, Middle, Low), Global Dimming, Off) Screen Scaling (Native Input Resolution, 200%, Automatic) H Delay (On, Off) V Delay (On, Off) Backlight Scan (On, Off) Backlight Scan (On, Off) Grid Marker (On, Off) Grid Marker (On, Off) Grid Marker (On, Off) Choverride (On, Off) CDL Override (On, Off) CDL Save to Memory CDL Load from Memory CDL Load from Memory CDL Load from Memory CDL Load from Memory CDL Export/Import Peaking (Peaking 1/Peaking 2/Off) Note When changing channels with "Channel UP/DOWN", the channels with "Input Configuration" (14) 40) set to "-" are skipped. When the "Backlight Control" setting is switched using an F button, the information is applied to "Backlight Control" in "Picture Mode". Likewise, when any marker settings are changed, those changes will be applied to "Enable" under the currently selected "Marker Preset".			

Item Setting Options (underline indicates factory default)		
Sets the function to assign to the F button on the display controller. Select an F butt function from the following list. The factory defaults for the display controller F butto F1 : H Delay (On, Off) F2 : V Delay (On, Off) F3 : Monochrome (On, Off) F4 : Blue Only (On, Off) F5 : Red Off (On, Off) F7 : Blue Off (On, Off) F7 : Blue Off (On, Off) F8 : Screen Scaling (Native Input Resolution, 200%, Automatic) F9 : Backlight Scan (On, Off) F10 : Knob Lock (On, Off) The following functions can also be assigned: Channel UP Channel DOWN Backlight Control(Local Dimming (High, Middle, Low), Global Dimming, Off) Aspect Marker (On, Off) Safety Zone Marker 1, 2 (On, Off) Center Marker (On, Off) Grid Marker (On, Off) Time Code (On, Off) CDL Override (On, Off) CDL Save to Memory CDL Load from Memory CDL Load from Memory CDL Export/Import Peaking (Peaking 1/Peaking 2/Off) Note • When changing channels with "Channel UP/DOWN", the channels with "Input (□40) set to "-" are skipped. • When the "Backlight Control" in "Picture Mode". Likewise, when any marker settings a		
Display Controller Channel	Sets the channel to assign to the CH button on the display controller. Select a CH button and register a channel number. A list of settings under the menu "Channel Settings" (40) is displayed.	
Display Name	Sets the name of the main unit. You can input up to 16 alphanumeric characters.	
Date/Time	Sets the year/month/date/hour/minute.	
Power Indicator Brightness	Adjusts the brightness of the power indicator on the main unit. 5 is the brightest. Off, 1 to 5 (2)	
Protect Settings	Locks the settings so they cannot be changed. When you press the MENU button, "Signal/System Information" appears, but other operations are grayed out because they are locked. OK: Performs protect settings. Cancel: Returns to the previous screen without protect settings. • Unlocking Protect Settings Move the selection frame to "Protect Settings" and press the SET button for approximately 3 seconds.	

Item	Setting Options (underline indicates factory default)			
Knob Lock	Locks the SHARPNESS, CHROMA, BRIGHTNESS, and CONTRAST knobs and RESET buttons on the display controller when the OSD menu is closed (also applied when CDL is selected). Also set using the F10 button on the display controller (\$\subseteq\$51). On, Off			
Reset All Settings	Returns all settings to factory default. When selected, the message "Reset all settings to factory defaults?" appears. OK: Performs reset. Cancel: Returns to the previous screen without resetting.			

Signal Information

Shows the signal information. When "Input signal selection" is "4K Input", information for the entire signal and each input is displayed. Select a signal with the SET or $\blacktriangleleft \blacktriangleright$ buttons according to the guide at top right corner of the menu. When signal information has been obtained although it is not displayed on the screen, the content of the information is grayed out.

SDI S	Signal	DisplayPort Signal		
Item	Display Example	Item	Display Example	
Channel	CH1	Channel	CH4	
Input Configuration	3G/HD-SDI 1 (3G-SDI)	Input Configuration	DisplayPort	
Select Input Signal	4K Input	Select Input Signal	4K Input	
Format	Automatic	Resolution	4096x2560	
Resolution	4096x2160	Horizontal Frequency	79.57 kHz	
Picture Rate, I/P/PsF*	24.00P	Vertical Frequency	59.96 Hz	
SDI Payload ID	89 C3 46 01	Pixel Encoding	4:4:4 RGB	
Video Standard	3G-SDI	Color Depth	10-bit	
Sampling Structure	4:4:4:4 GBRA	Matrix Gamma	sRGB	
Bit Depth	10-bit	RGB Range	Full	
Picture Rate	24.00			
Scanning Method	Progressive/Progressive			
	(Transport/Picture)			
Link Number	Single/Link_1			

^{*} When a content is grayed out, an asterisk "*" may be displayed indicating low "Picture Rate" accuracy such as "24.00P *".

System Information

Shows the video display status and network information.

Item	Display Example
Display	DP-V3010
Serial No.	00000000000
Firmware Ver.	010.0060.0110
Usage Time*	5 h
IP Address	192.168.0.1
Subnet Mask	255.255.255.0
MAC Address	FF:FF:FF:FF:FF
Display Controller	CL-01
Serial No.	00000000
Firmware Ver.	4.0.0
IP Address	192.168.0.10
Subnet Mask	255.255.255.0
MAC Address	FF:FF:FF:FF:FF

^{*} The "Usage Time" is not always "0" when you purchase the display due to factory inspection.

Main specifications/Performance

Main Unit

Panel				
Panel Type		IPS LCD panel		
Screen Size		30 inch (76.1 cm)		
Aspect Ratio		16:10		
Resolution		4096x2560 (10.5 megapixels)		
Active Display Are	a	Approximately 645.1 x 403.2 mm		
Pixel Pitch		157.5 μm		
Panel Driver		1024 gradations, 10-bit for each RGB color		
Image quality				
Brightness (Stand	ard)	48 cd/m² (DCI-P3), 100 cd/m²		
View Angle (Up, D	own, Left, Right)	89° (contrast ratio 10 : 1 or higher)		
Surface Treatment	:	Low-Reflection Glare		
General				
Backlight Type		RGB LED, direct down type		
Power		Rated Voltage: 100 – 240 V AC Rated Frequency: 50/60 Hz		
Power consumption	on	At maximum load (including change in brightness through aging): Approximately 370 W At factory shipment: Approximately 130 W		
Environmental Conditions	Operating	Temperature and humidity: 5 – 35 °C (41 – 95 °F), 20 – 80 %RH (no condensation) recommended: 15 – 30 °C (59 – 86 °F) Pressure: 700 – 1060 hPa		
	Storage/ Transporting	Temperature and humidity: -20 – 40 °C (-4 – 104 °F), 10 – 85 %RH (no condensation) 41 – 60 °C (105 – 140 °F), 10 – 40 %RH (no condensation) Pressure: 700 – 1060 hPa		
Dimensions (width	x height x depth)	Approximately 708 x 474 x 189 mm (27.9 x 18.7 x 7.4 in.)		
Weight		Approximately 24 kg (52.8 lb)		
Mounting Hole Pit	ch	VESA standard 200 x 200 mm (7.9 x 7.9 in.)		
Interface				
Input	3G/HD-SDI	8 (2 systems) BNC (75Ω) receptacle terminal 3G-SDI: SMPTE 2048-2/274M/296/372/425-1/428-19/428-9 compliant HD-SDI: SMPTE 2048-2/274M/292-1/296/428-19/428-9 compliant HD-SDI Dual: SMPTE 2048-2/274M/372/428-19/428-9 compliant		
	DisplayPort	4 (1 system) DisplayPort terminal DisplayPort Standard Specification Ver.1.1a compliant		
Output	3G/HD-SDI	8 (2 pass-thru systems)		
	•			

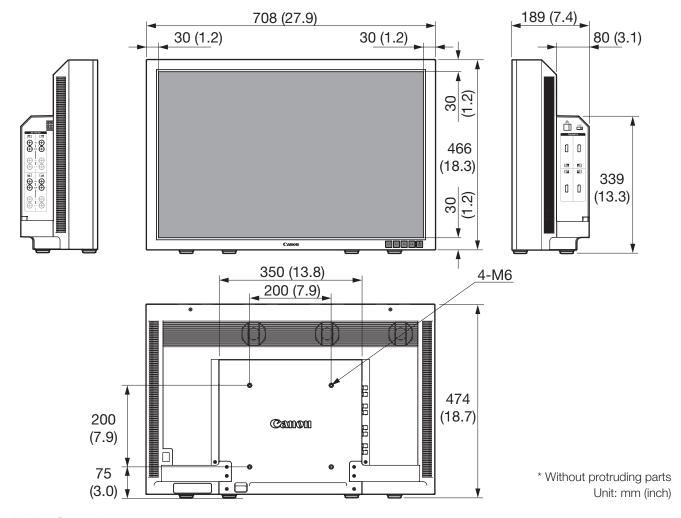
Interface			
Univer- Speed		1 USB A receptacle port Universal Serial bus specification revision 2.0 compliant LS (Low Speed)/FS (Full Speed)/HS (High Speed) mode compatible Enhanced host controller interface specification revision 1.0 compliant	
	LAN	1 RJ-45 terminal IEEE802.3 10BASE-TX / IEEE802.3u 100BASE-TX compliant	

Display Controller

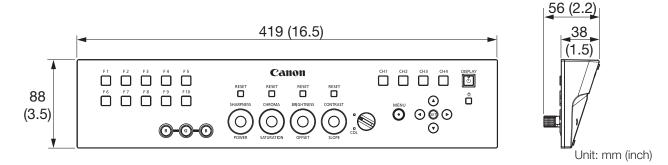
General	General				
Power		Rated Voltage: 100 – 240 V AC Rated Frequency: 50/60 Hz			
Power consumption		At maximum load: Approximately 2 W At factory shipment: Approximately 2 W			
Environmental	Operating	Temperature and humidity: 5 – 35 °C (41 – 95 °F), 20 – 80 %RH (no condensation)			
Conditions	Storage/Transporting	Temperature and humidity: $-20-40$ °C ($-4-104$ °F), $10-85$ %RH (no condensation) $41-60$ °C ($105-140$ °F), $10-40$ %RH (no condensation)			
Dimensions (wid	of the state of th	Approximately 419 x 56 x 88 mm (16.5 x 2.2 x 3.5 in.)			
Weight		Approximately 460 g (16.2 oz)			
Mounting Hole Pitch		EIA2U standard 76.2 x 465.9 mm (3.0 x 18.3 in.)			
Interface					
Control LAN		1 RJ-45 terminal			

Dimensions

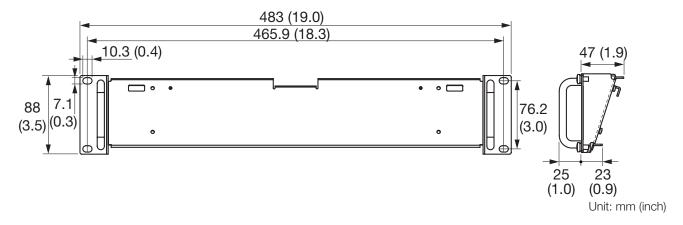
■ Main Unit



■ Display Controller



■ Other accessories (Rack Mount Bracket RB-01)



Appendix

Supported Signal Format

■ SDI

Transmission method	Signal format	Color format	Color depth	Standards
HD-SDI x 1	1280x720P 59.94/60.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 292-1
	1280x720P 50.00 Hz			SMPTE 296
	1280x720P 29.97/30.00 Hz			
	1280x720P 25.00 Hz			
	1280x720P 23.98/24.00 Hz			
	1920x1080i 59.94/60.00 Hz			SMPTE 292-1
	1920x1080i 50.00 Hz			SMPTE 274M
	1920x1080P 29.97/30.00 Hz			
	1920x1080PsF 29.97/30.00 Hz			
	1920x1080P 25.00 Hz]		
	1920x1080PsF 25.00 Hz]		
	1920x1080P 23.98/24.00 Hz			
	1920x1080PsF 23.98/24.00 Hz			
	2048x1080i 59.94/60.00 Hz			
	2048x1080i 50.00 Hz			
	2048x1080P 29.97/30.00 Hz			SMPTE 292-1
	2048x1080PsF 29.97/30.00 Hz			SMPTE 428-9 SMPTE 428-19
	2048x1080P 25.00 Hz			SMPTE 2048-2
	2048x1080PsF 25.00 Hz			
	2048x1080P 23.98/24.00 Hz			
	2048x1080PsF 23.98/24.00 Hz			

Transmission method	Signal format	Color format	Color depth	Standards
HD-SDI Dual x 1	1920x1080P 59.94/60.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 372
	1920x1080i 59.94/60.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	SMPTE 274M
		4:2:2 YCbCr	12-bit	
	1920x1080P 50.00 Hz	4:2:2 YCbCr	10-bit	
	1920x1080i 50.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	1920x1080P 29.97/30.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	1920x1080PsF 29.97/30.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	1920x1080P 25.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	7
	1920x1080PsF 25.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	1920x1080P 23.98/24.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	7
	1920x1080PsF 23.98/24.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	2048x1080P 59.94/60.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 372 SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
	2048x1080i 59.94/60.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:4:4 X'Y'Z' 4:2:2 YCbCr	12-bit	
	2048x1080P 50.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 372 SMPTE 2048-2
	2048x1080i 50.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:4:4 X'Y'Z' 4:2:2 YCbCr	12-bit	
	2048x1080P 47.95/48.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 372 SMPTE 2048-2

Transmission method	Signal format	Color format	Color depth	Standards
	2048x1080P 29.97/30.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 372 SMPTE 428-9
		4:4:4 X'Y'Z'	12-bit	SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 372
		4:2:2 YCbCr	12-bit	SMPTE 2048-2
	2048x1080PsF 29.97/30.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 372
		4:4:4 X'Y'Z'	12-bit	SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 372
		4:2:2 YCbCr	12-bit	SMPTE 2048-2
	2048x1080P 25.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 372
		4:4:4 X'Y'Z'	12-bit	SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 372
		4:2:2 YCbCr	12-bit	SMPTE 2048-2
	2048x1080PsF 25.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 372
		4:4:4 X'Y'Z'	12-bit	SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 372
		4:2:2 YCbCr	12-bit	SMPTE 2048-2
	2048x1080P 23.98/24.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 372
		4:4:4 X'Y'Z'	12-bit	SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 372
		4:2:2 YCbCr	12-bit	SMPTE 2048-2
	2048x1080PsF 23.98/24.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 372
		4:4:4 X'Y'Z'	12-bit	SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 372
		4:2:2 YCbCr	12-bit	SMPTE 2048-2
G-SDI Level A x 1	1280x720P 59.94/60.00 Hz	4:4:4 RGB	10-bit	SMPTE 425-1
	1280x720P 50.00 Hz	4:4:4 RGB	10-bit	SMPTE 296
	1280x720P 29.97/30.00 Hz	4:4:4 RGB	10-bit	
	1280x720P 25.00 Hz	4:4:4 RGB	10-bit	
	1280x720P 23.98/24.00 Hz	4:4:4 RGB	10-bit	
	1920x1080P 59.94/60.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 425-1 SMPTE 274M

Transmission method	Signal format	Color format	Color depth	Standards
3G-SDI Level A x 1	1920x1080i 59.94/60.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	SMPTE 425-1 SMPTE 274M
		4:2:2 YCbCr	12-bit	7
	1920x1080P 50.00 Hz	4:2:2 YCbCr	10-bit	
	1920x1080i 50.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	7
	1920x1080P 29.97/30.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	1920x1080PsF 29.97/30.00 Hz	4:4:4 RGB	10-bit	
			12-bit	
		4:4:4 YCbCr	12-bit	
		4:4:4 YCbCr	10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 274M
	1920x1080P 25.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	1920x1080PsF 25.00 Hz	4:4:4 RGB	10-bit	
			12-bit	
		4:4:4 YCbCr	12-bit	
		4:4:4 YCbCr	10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 274M
	1920x1080P 23.98/24.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	1920x1080PsF 23.98/24.00 Hz	4:4:4 RGB	10-bit	
			12-bit	
		4:4:4 YCbCr	12-bit	
		4:4:4 YCbCr	10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 274M
	2048x1080P 59.94/60.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 425-1 SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
	2048x1080i 59.94/60.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:4:4 X'Y'Z'	12-bit	
		4:2:2 YCbCr		

Transmission method	Signal format	Color format	Color depth	Standards
3G-SDI Level A x 1	2048x1080P 50.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 425-1 SMPTE 2048-2
	2048x1080i 50.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:4:4 X'Y'Z'	12-bit	7
		4:2:2 YCbCr		
	2048x1080P 47.95/48.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 425-1 SMPTE 2048-2
	2048x1080P 29.97/30.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 425-1 SMPTE 428-9
		4:4:4 X'Y'Z'	12-bit	SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 2048-2
	2048x1080PsF 29.97/30.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 425-1
		4:4:4 X'Y'Z'	12-bit	SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 2048-2
	2048x1080P 25.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 425-1
		4:4:4 X'Y'Z'	12-bit	SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 2048-2
	2048x1080PsF 25.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 425-1
		4:4:4 X'Y'Z'	12-bit	SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 2048-2
	2048x1080P 23.98/24.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 425-1 SMPTE 428-9
		4:4:4 X'Y'Z'	12-bit	SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 2048-2
	2048x1080PsF 23.98/24.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 425-1
		4:4:4 X'Y'Z'	12-bit	SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit SMPTE 42	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 2048-2

Transmission method	Signal format	Color format	Color depth	Standards
3G-SDI Level B x 1	1920x1080P 59.94/60.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 425-1
	1920x1080i 59.94/60.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	SMPTE 372 SMPTE 274M
		4:2:2 YCbCr	12-bit	
	1920x1080P 50.00 Hz	4:2:2 YCbCr	10-bit	
	1920x1080i 50.00 Hz	4:2:2 YCbCr	12-bit	
		4:4:4 YCbCr	12-bit/10-bit	
	1920x1080P 29.97/30.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	1920x1080PsF 29.97/30.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	1920x1080P 25.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	1920x1080PsF 25.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	1920x1080P 23.98/24.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	1920x1080PsF 23.98/24.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	2048x1080P 59.94/60.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 425-1 SMPTE 372 SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
	2048x1080i 59.94/60.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:4:4 X'Y'Z' 4:2:2 YCbCr	12-bit	
	2048x1080P 50.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 425-1 SMPTE 372 SMPTE 2048-2
	2048x1080i 50.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:4:4 X'Y'Z' 4:2:2 YCbCr	12-bit	
	2048x1080P 47.95/48.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 425-1 SMPTE 372 SMPTE 2048-2

Transmission method	Signal format	Color format	Color depth	Standards
	2048x1080P 29.97/30.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 425-1 SMPTE 372
		4:4:4 X'Y'Z'	12-bit	SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 372 SMPTE 2048-2
	2048x1080PsF 29.97/30.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 425-1
		4:4:4 X'Y'Z'	12-bit	SMPTE 372 SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 372 SMPTE 2048-2
	2048x1080P 25.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 425-1
		4:4:4 X'Y'Z'	12-bit	SMPTE 372 SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 372 SMPTE 2048-2
	2048x1080PsF 25.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 425-1
		4:4:4 X'Y'Z'	12-bit	SMPTE 372 SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 372 SMPTE 2048-2
	2048x1080P 23.98/24.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 425-1
		4:4:4 X'Y'Z'	12-bit	SMPTE 372 SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 372 SMPTE 2048-2

Transmission method	Signal format	Color format	Color depth	Standards
	2048x1080PsF 23.98/24.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 425-1
		4:4:4 X'Y'Z'	12-bit	SMPTE 372 SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 372 SMPTE 2048-2
HD-SDI x 4	3840x2160i 59.94/60.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 292-1
	3840x2160i 50.00 Hz			SMPTE 274M
	3840x2160P 29.97/30.00 Hz			
	3840x2160PsF 29.97/30.00 Hz			
	3840x2160P 25.00 Hz			
	3840x2160PsF 25.00 Hz			
	3840x2160P 23.98/24.00 Hz			
	3840x2160PsF 23.98/24.00 Hz			
	4096x2160i 59.94/60.00 Hz			
	4096x2160i 50.00 Hz			
	4096x2160P 29.97/30.00 Hz			SMPTE 292-1
	4096x2160P 29.97/30.00 Hz			SMPTE 428-9 SMPTE 428-19
	4096x2160PsF 29.97/30.00 Hz			SMPTE 2048-2
	4096x2160P 25.00 Hz			
	4096x2160PsF 25.00 Hz			
	4096x2160P 23.98/24.00 Hz			
	4096x2160PsF 23.98/24.00 Hz			

Transmission method	Signal format	Color format	Color depth	Standards
HD-SDI Dual x 4	3840x2160P 59.94/60.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 372 SMPTE 274M
	3840x2160i 59.94/60.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	3840x2160P 50.00 Hz	4:2:2 YCbCr	12-bit	
	3840x2160i 50.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	3840x2160P 29.97/30.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	3840x2160PsF 29.97/30.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	3840x2160P 25.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	3840x2160PsF 25.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	3840x2160P 23.98/24.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	3840x2160PsF 23.98/24.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	4096x2160P 59.94/60.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 372 SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
	4096x2160i 59.94/60.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:4:4 X'Y'Z' 4:2:2 YCbCr	12-bit	
	4096x2160P 50.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 372 SMPTE 2048-2
	4096x2160i 50.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:4:4 X'Y'Z' 4:2:2 YCbCr	12-bit	
	4096x2160P 47.95/48.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 372 SMPTE 2048-2

Transmission method	Signal format	Color format	Color depth	Standards
	4096x2160P 29.97/30.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 372
		4:4:4 X'Y'Z'	12-bit	SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 372
		4:2:2 YCbCr	12-bit	SMPTE 2048-2
	4096x2160PsF 29.97/30.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 372
		4:4:4 X'Y'Z'	12-bit	SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 372
		4:2:2 YCbCr	12-bit	SMPTE 2048-2
	4096x2160P 25.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 372
		4:4:4 X'Y'Z'	12-bit	SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 372
		4:2:2 YCbCr	12-bit	SMPTE 2048-2
	4096x2160PsF 25.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 372
		4:4:4 X'Y'Z'	12-bit	SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 372
		4:2:2 YCbCr	12-bit	SMPTE 2048-2
	4096x2160P 23.98/24.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 372 SMPTE 428-9
		4:4:4 X'Y'Z'	12-bit	SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 372
		4:2:2 YCbCr	12-bit	SMPTE 2048-2
	4096x2160PsF 23.98/24.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 372 SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 X'Y'Z'	12-bit	
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 372
		4:2:2 YCbCr	12-bit	SMPTE 2048-2

Transmission method	Signal format	Color format	Color depth	Standards
3G-SDI Level A x 4	3840x2160P 59.94/60.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 425-1
	3840x2160i 59.94/60.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	SMPTE 274M
		4:2:2 YCbCr	12-bit	
	3840x2160P 50.00 Hz	4:2:2 YCbCr	12-bit	
	3840x2160i 50.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	3840x2160P 29.97/30.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	3840x2160PsF 29.97/30.00 Hz	4:4:4 RGB	10-bit	
			12-bit	
		4:4:4 YCbCr	12-bit	
		4:4:4 YCbCr	10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 274M
	3840x2160P 25.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	3840x2160PsF 25.00 Hz	4:4:4 RGB	10-bit	
			12-bit	
		4:4:4 YCbCr	12-bit	
		4:4:4 YCbCr	10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 274M
	3840x2160P 23.98/24.00 Hz	4:2:2 YCbCr 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	3840x2160PsF 23.98/24.00 Hz	4:4:4 RGB	10-bit	
			12-bit	
		4:4:4 YCbCr	12-bit	
		4:4:4 YCbCr	10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 274M
	4096x2160P 59.94/60.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 425-1 SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
	4096x2160i 59.94/60.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:4:4 X'Y'Z' 4:2:2 YCbCr	12-bit	

Transmission method	Signal format	Color format	Color depth	Standards
3G-SDI Level A x 4	4096x2160P 50.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 425-1 SMPTE 2048-2
	4096x2160i 50.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:4:4 X'Y'Z' 4:2:2 YCbCr	12-bit	
	4096x2160P 47.95/48.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 425-1 SMPTE 2048-2
	4096x2160P 29.97/30.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 425-1
		4:4:4 X'Y'Z'	12-bit	SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 2048-2
	4096x2160PsF 29.97/30.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 425-1
		4:4:4 X'Y'Z'	12-bit	SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 2048-2
	4096x2160P 25.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 425-1
		4:4:4 X'Y'Z'	12-bit	SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 2048-2
	4096x2160PsF 25.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 425-1
		4:4:4 X'Y'Z'	12-bit	SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 2048-2
	4096x2160P 23.98/24.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 425-1
		4:4:4 X'Y'Z'	12-bit	SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 2048-2
	4096x2160PsF 23.98/24.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 425-1
		4:4:4 X'Y'Z'	12-bit	SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr 12-bit/10-bit	SMPTE 425-1	
		4:2:2 YCbCr	12-bit	SMPTE 2048-2

Transmission method	Signal format	Color format	Color depth	Standards
3G-SDI Level B x 4	3840x2160P 59.94/60.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 425-1
	3840x2160i 59.94/60.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	SMPTE 372 SMPTE 274M
		4:2:2 YCbCr	12-bit	
	3840x2160P 50.00 Hz	4:2:2 YCbCr	10-bit	
	3840x2160i 50.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	3840x2160P 29.97/30.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	3840x2160PsF 29.97/30.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	3840x2160P 25.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	3840x2160PsF 25.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	7
	3840x2160P 23.98/24.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	3840x2160PsF 23.98/24.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:2:2 YCbCr	12-bit	
	4096x2160P 59.94/60.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 425-1 SMPTE 372 SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
	4096x2160i 59.94/60.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:4:4 X'Y'Z' 4:2:2 YCbCr	12-bit	
	4096x2160P 50.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 425-1 SMPTE 372 SMPTE 2048-2
	4096x2160i 50.00 Hz	4:4:4 RGB 4:4:4 YCbCr	12-bit/10-bit	
		4:4:4 X'Y'Z' 4:2:2 YCbCr	12-bit	

Transmission method	Signal format	Color format	Color depth	Standards
3G-SDI Level B x 4	4096x2160P 47.95/48.00 Hz	4:2:2 YCbCr	10-bit	SMPTE 425-1 SMPTE 372 SMPTE 2048-2
	4096x2160P 29.97/30.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 425-1 SMPTE 372
		4:4:4 X'Y'Z'	12-bit	SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 372 SMPTE 2048-2
	4096x2160PsF 29.97/30.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 425-1
		4:4:4 X'Y'Z'	12-bit	SMPTE 372 SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 372 SMPTE 2048-2
	4096x2160P 25.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 425-1
		4:4:4 X'Y'Z'	12-bit	SMPTE 372 SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 425-1 SMPTE 372 SMPTE 2048-2
		4:2:2 YCbCr	12-bit	
	4096x2160PsF 25.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 425-1
		4:4:4 X'Y'Z'	12-bit	SMPTE 372 SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 372 SMPTE 2048-2
	4096x2160P 23.98/24.00 Hz	4:4:4 RGB	12-bit/10-bit	SMPTE 425-1
		4:4:4 X'Y'Z'	12-bit	SMPTE 372 SMPTE 428-9 SMPTE 428-19 SMPTE 2048-2
		4:4:4 YCbCr	12-bit/10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 372 SMPTE 2048-2
	4096x2160PsF 23.98/24.00 Hz	4:4:4 YCbCr	12-bit/10-bit	SMPTE 425-1
		4:2:2 YCbCr	12-bit	SMPTE 372 SMPTE 2048-2

■ DisplayPort

Signal format	Standards	PixelClock [MHz]	Horizontal frequency [kHz]	Vertical frequency [Hz]
640x480	VESA DMT	25.175	31.469	59.940
800x600	VESA DMT	40.000	37.879	60.317
1024x768	VESA DMT	65.000	48.363	60.004
1920x1080	VESA DMT	148.500	67.500	60.000
2048x1080 CVTRB	VESA CVT	147.000	66.576	59.924
2048x1280 CVTRB	VESA CVT	174.250	78.918	59.922
2048x1280	VESA CVT	220.250	79.570	59.962
3840x2160*	VESA DMT	148.500	67.500	60.000
4096x2160 CVTRB*	VESA CVT	147.000	66.576	59.924
4096x2560 CVTRB*	VESA CVT	174.250	78.918	59.922
4096x2560*	VESA CVT	220.250	79.570	59.962

^{*} Values for one terminal are shown for PixelClock and Horizontal frequency.

Image/Frame Display

■ SDI

Input (Signal system)		Output (Display	Output (Display frame rate)	
1280x720	23.98/24.00	Р	47.96/48.00	P*
	25.00	Р	50.00	P*
	29.97/30.00	Р	59.94/60.00	P*
	50.00	Р	50.00	Р
	59.94/60.00	Р	59.94/60.00	Р
1920x1080	50.00	i	50.00	Р
	59.94/60.00	i	59.94/60.00	Р
	23.98/24.00	PsF	47.96/48.00	P*
	25.00	PsF	50.00	P*
	29.97/30.00	PsF	59.94/60.00	P*
	23.98/24.00	Р	47.96/48.00	P*
	25.00	Р	50.00	P*
	29.97/30.00	Р	59.94/60.00	P*
	50.00	Р	50.00	Р
	59.94/60.00	Р	59.94/60.00	Р
2048x1080	50.00	i	50.00	Р
	59.94/60.00	i	59.94/60.00	Р
	23.98/24.00	PsF	47.96/48.00	P*
	25.00	PsF	50.00	P*
	29.97/30.00	PsF	59.94/60.00	P*
	23.98/24.00	Р	47.96/48.00	P*
	25.00	Р	50.00	P*
	29.97/30.00	Р	59.94/60.00	P*
	47.95/48.00	Р	47.95/48.00	Р
	50.00	Р	50.00	Р
	59.94/60.00	Р	59.94/60.00	Р
3840x2160	50.00	i	50.00	Р
	59.94/60.00	i	59.94/60.00	Р
	23.98/24.00	PsF	47.96/48.00	P*
	25.00	PsF	50.00	P*
	29.97/30.00	PsF	59.94/60.00	P*
	23.98/24.00	Р	47.96/48.00	P*
	25.00	Р	50.00	P*
	29.97/30.00	Р	59.94/60.00	P*
	50.00	Р	50.00	Р
	59.94/60.00	Р	59.94/60.00	Р
	•	•	,	•

Input (Signal system)		Output (Display fram	ne rate)	
4096x2160	50.00	i	50.00	Р
	59.94/60.00	i	59.94/60.00	Р
	23.98/24.00	PsF	47.96/48.00	P*
	25.00	PsF	50.00	P*
	29.97/30.00	PsF	59.94/60.00	P*
	23.98/24.00	Р	47.96/48.00	P*
	25.00	Р	50.00	P*
	29.97/30.00	Р	59.94/60.00	P*
	47.95/48.00	Р	47.95/48.00	Р
	50.00	Р	50.00	Р
	59.94/60.00	Р	59.94/60.00	Р

^{*:} Displaying same frame

■ DisplayPort

Input (Signal system)		Output (Display frame rate)		
640x480	59.940	Р	59.940	Р
800x600	60.317	Р	60.317	Р
1024x768	60.004	Р	60.004	Р
1920x1080	60.00	Р	60.00	Р
2048x1080	59.924	Р	59.924	Р
2048x1280	59.922/59.962	Р	59.922/59.962	Р
3840x2160	60.00	Р	60.00	Р
4096x2160	59.924	Р	59.924	Р
4096x2560	59.922/59.962	Р	59.922/59.962	Р

Picture Display Size

■ SDI

loout	Aspect Ratio		Output	
Input	Setting	Native Input Resolution	200%	Automatic
1280x720	16:9	1280x720	2560x1440	4096x2304
1920x1080	16:9	1920x1080	3840x2160	4096x2304
2048x1080	1.896:1	2048x1080	4096x2160	4096x2160
3840x2160	16:9	3840x2160		4096x2304
4096x2160	1.896:1	4096x2160		4096x2160

■ DisplayPort

lmmid	Aspect Ratio	Output		
Input	Setting	Native Input Resolution	200%	Automatic
640x480	4:3	640x480	1280x960	3413x2560
800x600	4:3	800x600	1600x1200	3413x2560
1024x768	4:3	1024x768	2048x1536	3413x2560
1920x1080	16:9	1920x1080	3840x2160	4096x2304
2048x1080	1.896:1	2048x1080	4096x2160	4096x2160
2048x1280	16:10	2048x1280	4096x2560	4096x2560
3840x2160	16:9	3840x2160		4096x2304

Aspect Ratio		Output		
Input	Setting	Native Input Resolution	200%	Automatic
4096x2160	1.896:1	4096x2160		4096x2160
4096x2560	16:10	4096x2560		4096x2560

Input Signals and Adjustable/Setting Item

Setting item		Input signal		
		SDI	DisplayPort	
		YCbCr/RGB/XYZ	RGB	
Adjustment	Picture Mode	•	•	
	Contrast	•	•	
	Brightness	•	•	
	Chroma	•	•	
	Sharpness	•	•	
	Backlight Control	•	•	
	Color Temperature	•	•	
	Gamma	•	•	
	Color Gamut	•	•	
	Calibration	•	•	
Channel Settings	Format	●* ¹	_	
	Color Range	●* ²	● * ³	
	Internal Sync	•	•	
Display Settings	Screen Scaling	•	•	
	Scaling Method	•	•	
	I/P Conversion	•	_	
	PsF	•	_	
	Film Cadence	●* ⁴	_	
Marker Settings	Aspect Marker	•	•	
	Safety Zone Marker	•	•	
	Center Marker	•	•	
	Grid Marker	•	•	
Function Settings	Monochrome	•	•	
	Blue Only	•	•	
	Red Off	•	•	
	Green Off	•	•	
	Blue Off	•	•	
	H Delay	•	_	
	V Delay	•	_	
	Backlight Scan	•	•	
	Time Code	•	_	

^{*1:} HD-SDI is fixed to "4:2:2 YCbCr 10-bit".
*2: Cannot be set to "Automatic".
*3: Cannot be set to "Limited Range 2".

^{*4:} Can be set only when "I/P Conversion" is set to "Image Priority".

Error Messages

Message		Description and Action
Calibration	Failed to initialize the external sensor.	See CA-310 and CA-210 instruction manual.
	Calibration error.	Check the installation and connection of the external sensor and retry (\$\subseteq\$28).
		Perform matrix calibration of CA-310 and CA-210 (29).
	Calibration is completed. (Brightness setting is lower than target brightness.)	Set the "Luminance" in calibration again (38).
	Failed to detect the external sensor. Please check the connection of the sensor.	Correctly connect the external sensor to the USB port of this main unit.
Network	Communication error.	IP address may be in conflict or there may be a network communication error. Check the network environment.
	Invalid IP Address.	Enter the correct IP address.
	Invalid Subnet Mask.	Enter the correct subnet mask.
Various settings, CDL export	There is no capacity USB memory.	Use another USB memory or delete the content of the memory.
	Failed to write file.	The USB memory may be defective or protected. Check the USB memory.
	(CDL Export) Number of files is over limit.	Up to 1000 files can be exported.
LUT, Various settings, CDL import	(LUT Import) "LUT Type" is different. (CDL Import) "File Type" is different.	Select the correct file format.
	Failed to read file.	The USB memory may be defective or protected. Check the USB memory.
	Failed to Import.	There is an error in the file to be imported. Check the file.
	No import file.	Check to see if the file has been imported to the USB memory.
Hardware error	Backlight error.	Turn off the main power once and then back on.
	Fan error.	If the message persists, contact Canon Customer Center.
	Panel error.	- Conton
	I/F error.	
	System error.	
Input signal	No Signal	Displayed when there is no video signal input.
	Unsupported	Unsupported video signal is input. Check the supported signal format (\$\square\$ 57).
	"Input Configuration" is different from Payload.	Check the "Input Configuration" (240) and "Signal Information" (253) settings. Reset any incorrect "Input Configuration" settings.

Message		Description and Action
Operation	Invalid operation.	F buttons will not function in the following cases: When the following function is set during DisplayPort signal selection: H Delay/V Delay Time Code When the following function is set while "Input Configuration" is not performed for the selected channel: Time Code When the following function is set while "H Delay"/"V Delay" is set: Screen Scaling Aspect Marker Safety Zone Marker Peaking 1/Peaking 2 When the following function is set while "Peaking 1"/"Peaking 2" is set: Aspect Marker Safety Zone Marker Genter Marker Grid Marker H Delay/V Delay Time Code
	"Protect Settings" is on.	To use the OSD menu, move the selection frame to "Protect Settings" and press the SET button for approximately 3 seconds.
	"CDL Override" is on.	When "CDL Override" is turned "On", you cannot adjust the "POWER", "SATURATION", "OFFSET", or "SLOPE".
	"Knob Lock" is on.	If the knobs are not functioning, please set "Knob Lock" to "OFF".
USB memory	USB memory is not connected.	Correctly connect the USB memory to the USB port of this main unit.
	Unsupported USB memory.	Check the USB memory format and make sure it is not protected.

Troubleshooting

Symptom	Cause and Action	
Power does not turn on.	Turn on the main power.	11
(Power indicator does not turn on.)	Check that the AC power cord is connected correctly.	22
	Brightness of the power indicator may be turned off. Turn it on and check once more.	51
The screen is dark.	When the power indicator does not turn on:	11
	Turn on the main power.	22
	Check that the AC power cord is connected correctly.	
	When the power indicator is lit orange: • Press the (b) button.	11
	When the power indicator is flashing orange: • Flashing once every 3 seconds: Contact Canon Customer Center.	11
	Flashing twice every 3 seconds: Turn on the power with the button. If the power still does not turn on, contact Canon Customer Center.	
Main unit cannot be controlled with the display controller.	Check that the main unit and the display controller are connected correctly.	19
	Pairing may not be performed correctly. Try re-pairing.	23
The image does not display.	Set each item in "Channel Settings" according to input signal.	40
There is a blank area when set to 4K Input.	There may be no input signal. Look at the display area icon in the interface area and check that the input area and signal cables are properly connected.	16
	Signals with different resolution or frequency may be input from each terminal. Check the signal.	53
Screen is too bright/dark.	Adjust the "Contrast" on the OSD menu.	36
	There is a limit on the service life of LCD backlight. If the screen becomes dark or starts flickering, contact Canon Customer Center.	
Burn-in image appears.	This is a characteristic of the LCD panel and you should avoid displaying stationary image for a long time.	_
There is an unlit or red, blue, green, or white dot on screen.	LCD display is made of very high precision technology. It has effective pixels of 99.99% or more, but there may be black dots or red, blue, or green dots that may be always on. This is not a failure.	_
There is an interference pattern or trace that remains when the LCD panel is pressed.	The symptom may be resolved by displaying a white or black image on the entire screen.	_
OSD menu cannot be used.	Check that "Protect Settings" is not set.	51
"Aspect Marker" or " Safety Zone Marker " does not appear.	A channel with no signal, unsupported signal, or with "Input Configuration" not set may be selected. Check the signal.	53
	"H Delay"/"V Delay" is turned "On". Set to "Off".	48, 50,
	Not displayed when "Peaking 1" or "Peaking 2" is selected. Set it to "Off".	51

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- glibc
- JFFS2

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CANON PROFESSIONAL DISPLAY LIMITED WARRANTY FOR PRODUCTS PURCHASED IN THE UNITED STATES

The limited warranty set forth below is given by Canon U.S.A., Inc. ('Canon USA') with respect to Canon Professional Display Equipment (the 'Equipment') accompanying this limited warranty in the Equipment's original container, when purchased in the United States. This limited warranty is only effective upon presentation of your Bill of Sale or other proof of purchase.

Canon USA warrants to the original end-user purchaser, when delivered in new condition in its original container, that the Equipment will be free from defects in materials and workmanship under normal use and service for a period of ONE-YEAR from the date of original purchase. When returning Equipment under this warranty, you must pre-pay the shipping charges, and you must enclose a copy of the Bill of Sale or other proof of purchase with a complete explanation of the problem. Equipment returned to a Canon USA factory service facility, and proven to be defective upon inspection, will be, without charge,:

- (a) repaired utilizing new or comparable refurbished parts, or
- (b) exchanged for refurbished or new Equipment

as determined in the Canon USA's repair facility's sole discretion. The repaired or exchanged Equipment will be shipped back free of charge. Warranty exchange or replacement does not extend the original warranty period of the Equipment. For repairs after the warranty period has expired, an estimate of the cost of repair and an opportunity to approve or reject the repair expense before it is incurred will be provided. If you approve, repairs will be made and the Equipment will be returned at your risk and expense. If you reject, the Equipment will be returned to you at no charge to you to an address within the United States.

This limited warranty only applies if the Equipment is used in conjunction with compatible computer equipment, compatible peripheral equipment and compatible software, as to which items Canon USA will have no responsibility. Canon USA shall have no responsibility under this limited warranty for use of the Equipment in conjunction with incompatible peripheral equipment and/or incompatible software. Non-Canon brand peripheral equipment and software which may be distributed with, or be factory loaded on, the Equipment, are sold 'AS IS' without warranty of any kind by Canon USA, including any implied warranty regarding merchantability or fitness for a particular purpose. The sole warranty with respect to such non-Canon brand items is given by the manufacturer or producer thereof. If the Equipment contains a hard disk drive, Canon USA recommends that data stored on that drive be duplicated or backed up to prevent its loss in the event of failure or other malfunction of such drive.

In order to obtain warranty service, please contact the authorized Canon retail dealer from whom you purchased the Equipment or contact the CANON INFORMATION CENTER AT **855-4K-CANON** (855-452-2666) or on the internet at **pro.usa.canon.com/support**. You will be directed to the nearest service facility for your Equipment.

Technical support program specifics subject to change without notice.

This Limited Warranty covers all defects encountered in normal use of the Equipment and does not apply in the following cases:

- A. Loss or damage to the Equipment due to abuse, neglect, mishandling, electric current fluctuation, accident, improper maintenance, use of non-Canon accessories or failure to follow operating, maintenance or environmental instructions prescribed in Canon USA's user's manual;
- B. If the Equipment is defective as a result of sand, dirt or water damage;
- C. If defects or damages are caused by the use of parts or supplies (other than those sold by Canon USA) that cause damage to the Equipment or that cause abnormally frequent service calls or service problems;
- D. If defects or damages are caused by service other than Canon USA's factory service centers or authorized service facilities;
- E. Any internal modification to product hardware or firmware;
- F. Any maintenance of the Equipment, including any fees for such Maintenance;
- G. If the Equipment has had its serial number or dating altered or removed.

This Limited Warranty does not apply to Equipment purchased outside the United States. This Limited Warranty does not apply to accessories or consumables for the Equipment, which are sold "AS IS", without warranty of any kind by Canon USA. Please retain this warranty card and your Bill of Sale as a permanent record of your purchase. This card ensures that you are contacted promptly should there be a safety inspection, modification or product recall under applicable laws or regulations. This card ensures that you are contacted promptly should there be a safety inspection, modification or product recall under applicable laws or regulations.

NO IMPLIED WARRANTY. INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE APPLIES TO THIS EQUIPMENT AFTER THE APPLICABLE PERIOD OF EXPRESS WARRANTY OR GUARANTY UNDER THIS WARRANTY (EXCEPT AS MENTIONED ABOVE). (SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU). CANON USA SHALL NOT BE LIABLE FOR LOSS OF REVENUES OR PROFITS, EXPENSE FOR SUBSTITUTE EQUIPMENT OR SERVICE, STORAGE CHARGES, LOSS OR CORRUPTION OF DATA, INCLUDING WITHOUT LIMITATION, LOSS OR CORRUPTION OF DATA STORED ON THE EQUIPMENT'S HARD DRIVE, OR ANY OTHER SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES CAUSED BY THE USE, MISUSE OR INABILITY TO USE THE EQUIPMENT, REGARDLESS OF THE LEGAL THEORY ON WHICH THE CLAIM IS BASED, AND EVEN IF CANON USA HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. NOR SHALL RECOVERY OF ANY KIND AGAINST CANON USA BE GREATER THAN THE PURCHASE PRICE OF THE EQUIPMENT SOLD BY CANON USA AND CAUSING THE ALLEGED DAMAGE. WITHOUT LIMITING THE FOREGOING, YOU ASSUME ALL RISK AND LIABILITY FOR LOSS, DAMAGE OR INJURY TO YOU AND YOUR PROPERTY AND TO OTHERS AND THEIR PROPERTY ARISING OUT OF USE, MISUSE OR INABILITY TO USE THE EQUIPMENT NOT CAUSED DIRECTLY BY THE NEGLIGENCE OF CANON USA (SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU). THIS WARRANTY SHALL NOT EXTEND TO ANYONE OTHER THAN THE ORIGINAL PURCHASER OF THIS EQUIPMENT OR THE PERSON FOR WHOM IT WAS PURCHASED AS A GIFT.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

CANON U.S.A., INC

CANON PROFESSIONAL DISPLAY LIMITED WARRANTY FOR PRODUCTS PURCHASED IN CANADA

The limited warranty set forth below is given by Canon Canada Inc. ('Canon Canada') with respect to Canon Professional Display Equipment (the 'Equipment') accompanying this limited warranty in the Equipment's original container, when purchased in Canada. This limited warranty is only effective upon presentation of your bill of sale or other proof of purchase.

Canon Canada warrants to the original end-user purchaser, when delivered in new condition in its original container, that the Equipment will be free from defects in materials and workmanship under normal use and service for a period of ONE YEAR from the date of original purchase. When returning Equipment under this limited warranty, you must prepay the shipping charges, and you must enclose a copy of the bill of sale or other proof of purchase with a complete explanation of the problem. Equipment returned to a Canon Canada factory service facility and proven to be defective upon inspection will be, without charge:

- (a) repaired utilizing new or comparable refurbished parts, or
- (b) exchanged for refurbished or new Equipment,

as determined by the Canon Canada factory service center, in its sole discretion. The repaired or exchanged Equipment will be shipped back free of charge. Warranty exchange or replacement does not extend the original warranty period of the Equipment. For repairs after the warranty period has expired, an estimate of the cost of repair and an opportunity to approve or reject the repair expense before it is incurred will be provided. If you approve the proposed repairs, repairs will be made and the Equipment will be returned at your risk and expense. If you reject the proposed repairs, the Equipment will be returned to you at no charge to you to an address within Canada.

This limited warranty only applies if the Equipment is used in conjunction with compatible computer equipment, compatible peripheral equipment and compatible software, as to which items Canon Canada will have no responsibility. Canon Canada shall have no responsibility under this limited warranty for use of the Equipment in conjunction with incompatible computer equipment, peripheral equipment and/or incompatible software. Non-Canon brand peripheral equipment and software which may be distributed with, or be factory loaded on, the Equipment, are sold 'AS IS' without warranty or condition of any kind by Canon Canada, including any implied warranty or condition regarding merchantability or fitness for a particular purpose. The sole warranty with respect to such non-Canon brand items is given by the manufacturer or producer thereof. If the Equipment contains a hard disk drive, Canon Canada recommends that data stored on that drive be duplicated or backed up to prevent its loss in the event of failure or other malfunction of such drive.

In order to obtain warranty service, please contact the authorized Canon retail dealer from whom you purchased the Equipment or contact the CANON INFORMATION CENTER at **800-667-2666** or on the internet at **www.canon.ca/pro**.

Technical support program specifics are subject to change without notice.

This limited warranty covers all defects encountered in normal use of the Equipment and does not apply in the following cases:

- A. Loss or damage to the Equipment due to abuse, neglect, mishandling, electric current fluctuation, accident, improper maintenance, use of non-Canon accessories or failure to follow operating, maintenance or environmental instructions prescribed in Canon Canada's users manual;
- B. If the Equipment is defective as a result of sand, dirt or water damage;
- C. If defects or damages are caused by the use of parts or supplies (other than those sold by Canon Canada) that cause damage to the Equipment or that cause abnormally frequent service calls or service problems
- D. If defects or damages are caused by service other than Canon Canada's factory service centers or authorized service facilities;
- E. Any internal modification to product hardware or firmware;
- F. Any maintenance of the Equipment, including any fees for such maintenance; or
- G. If the Equipment has had its serial number or dating altered or removed.

This limited warranty does not apply to Equipment purchased outside Canada. This limited warranty does not apply to accessories or consumables for the Equipment, which are sold "AS IS", without warranty or condition of any kind by Canon Canada. Please retain this warranty card and your bill of sale or other proof of purchase as a permanent record of your purchase. This card ensures that you are contacted promptly should there be a safety inspection, modification or product recall under applicable laws or regulations.

NO IMPLIED WARRANTY OR CONDITION, INCLUDING IN RESPECT OF THE MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, APPLIES TO THIS EQUIPMENT AFTER THE EXPIRATION OF THE APPLICABLE PERIOD OF EXPRESS WARRANTY OR GUARANTEE UNDER THIS LIMITED WARRANTY (EXCEPT AS MENTIONED ABOVE). (SOME PROVINCES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU). CANON CANADA SHALL NOT BE LIABLE FOR LOSS OF REVENUES OR PROFITS, EXPENSE FOR SUBSTITUTE EQUIPMENT OR SERVICE, STORAGE CHARGES, LOSS OR CORRUPTION OF DATA, INCLUDING WITHOUT LIMITATION, LOSS OR CORRUPTION OF DATA STORED ON THE EQUIPMENT'S HARD DRIVE, OR ANY OTHER SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES CAUSED BY THE USE, MISUSE OR INABILITY TO USE THE EQUIPMENT, REGARDLESS OF THE LEGAL THEORY ON WHICH THE CLAIM IS BASED, AND EVEN IF CANON CANADA HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. NOR SHALL RECOVERY OF ANY KIND AGAINST CANON CANADA BE GREATER THAN THE PURCHASE PRICE OF THE EQUIPMENT SOLD BY CANON CANADA AND CAUSING THE ALLEGED DAMAGE. WITHOUT LIMITING THE FOREGOING, YOU ASSUME ALL RISK AND LIABILITY FOR LOSS, DAMAGE OR INJURY TO YOU AND YOUR PROPERTY AND TO OTHERS AND THEIR PROPERTY ARISING OUT OF USE, MISUSE OR INABILITY TO USE THE EQUIPMENT NOT CAUSED DIRECTLY BY THE **NEGLIGENCE OF CANON CANADA (SOME PROVINCES DO NOT ALLOW THE EXCLUSION OR LIMITATION** OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU). THIS LIMITED WARRANTY SHALL NOT EXTEND TO ANYONE OTHER THAN THE ORIGINAL PURCHASER OF THIS EQUIPMENT OR THE PERSON FOR WHOM IT WAS PURCHASED AS A GIFT.

This limited warranty gives you specific legal rights, and you may also have other rights which vary from province to province.

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