SONY

5-017-036-**11** (1)

Remote Control Panel

Operating Instructions

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

RCP-3500
RCP-3501

Table of Contents

Precautions

Note on faulty pixels on the LCD panel

The LCD panel fitted to this unit is manufactured with high precision technology, giving a functioning pixel ratio of at least 99.99%. Thus a very small proportion of pixels may be “stuck”, either always off (black), always on (red, green, or blue), or flashing. In addition, over a long period of use, because of the physical characteristics of the liquid crystal display, such “stuck” pixels may appear spontaneously. These problems are not a malfunction.

Cleaning the touch panel

When cleaning the touch panel display, use a soft, dry cloth, similar to those used for cleaning spectacles, and gently wipe only the area that is dirty.

Notes

- Wiping firmly with tissue paper or similar may scratch the coating.
- If your monitor becomes dirty with fingerprints or dust, we recommend that you gently remove any dust on the surface and then clean it with a soft cloth.

To prevent electromagnetic interference from portable communications devices

The use of portable telephones and other communications devices near this unit can result in malfunctions and interference with audio and video signals.
It is recommended that the portable communications devices near this unit be powered off.

On condensation

If the unit is suddenly taken from a cold to a warm location, or if ambient temperature suddenly rises, moisture may form on the outer surface of the unit and/or inside of the unit. This is known as condensation. If condensation occurs, turn off the unit and wait until the condensation clears before operating the unit. Operating the unit while condensation is present may damage the unit.

On consumable parts

The life expectancy of the electrolytic capacitor is about 5 years under normal operating temperatures and normal usage (8 hours per day; 25 days per month).
If usage exceeds the above normal usage frequency, the life expectancy may be reduced correspondingly.

On network security

SONY WILL NOT BE LIABLE FOR DAMAGES OF ANY KIND RESULTING FROM A FAILURE TO IMPLEMENT PROPER SECURITY MEASURES ON TRANSMISSION DEVICES, UNAVOIDABLE DATA LEAKS RESULTING FROM TRANSMISSION SPECIFICATIONS, OR SECURITY PROBLEMS OF ANY KIND.

Depending on the operating environment, unauthorized third parties on the network may be able to access the unit. When connecting the unit to the network, be sure to confirm that the network is protected securely.

Do not place this product close to medical devices

This product (including accessories) has magnet(s) which may interfere with pacemakers, programmable shunt valves for hydrocephalus treatment, or other medical devices. Do not place this product close to persons who use such medical devices. Consult your doctor before using this product if you use any such medical device.

Overview

Features

The RCP-3500/3501 are remote control panels for configuring and controlling Sony's studio and broadcast cameras. Up to four units can be mounted in a 19-inch EIA rack.
In addition to basic camera operations using buttons and knobs, you can configure devices, control the menu of devices, and save/load settings to/from a USB drive using the LCD touch panel.
You can connect the CCU and camera using a conventional CCA-5 cable or construct a networked system using a LAN.

LCD touch panel

The unit has a 3-inch LCD with electrostatic capacitive touch panel with VGA (640×480) resolution for menu operations. The screen contrast and visibility have been improved compared to previous models.

Customizable buttons and knobs

You can customize two dedicated assignable buttons and the other buttons in the row immediately above the LCD by assigning functions to the buttons.
There are also two assignable buttons at the bottom of the unit.
The unit has encoder-type assignable knobs which can also be assigned functions.

USB drive support

Configuration files of cameras and the settings of the unit can be saved to a USB drive and loaded from a USB drive.

1000BASE-T support

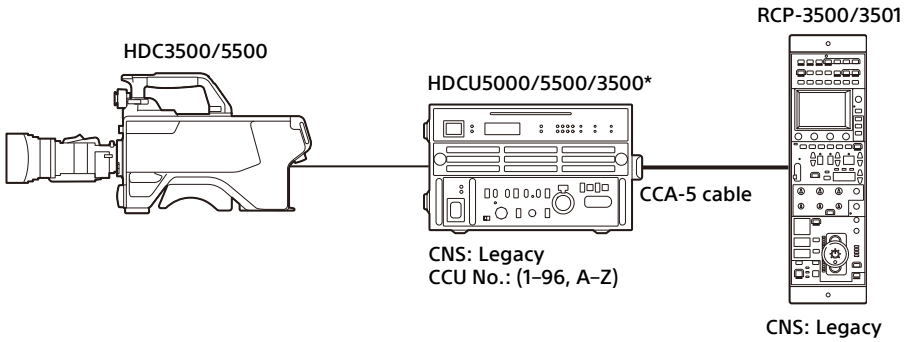
1000BASE-T high-speed networks are supported.

System Configuration Examples

Note

Restart all camera systems after changing the connection mode (CNS).

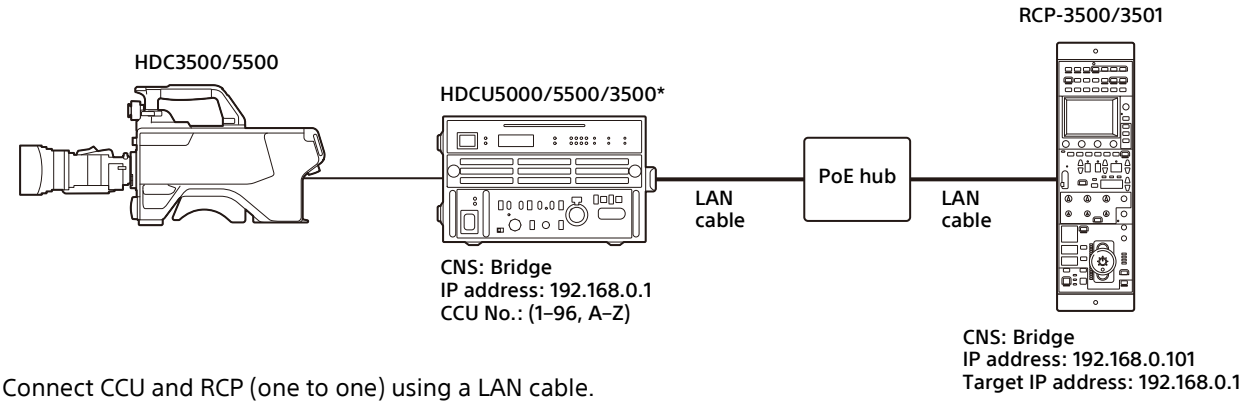
LEGACY mode connection example



Connect a camera control unit (CCU) and RCP with a CCA-5 cable.

* The diagram shows the HDCU5500/3500.

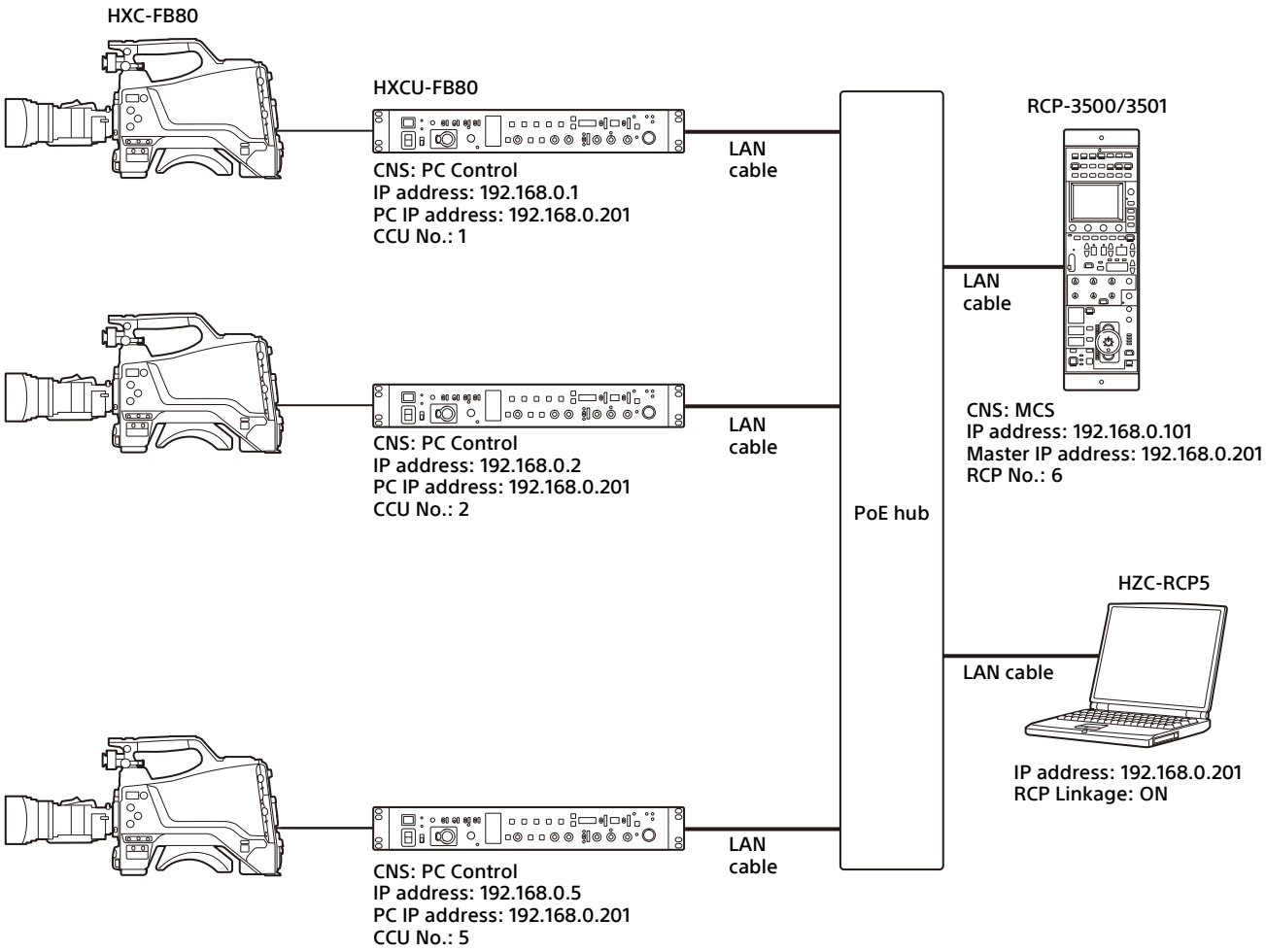
BRIDGE mode connection example



- Connect CCU and RCP (one to one) using a LAN cable.
- Configure the IP address and CCU (Target) destination IP address.

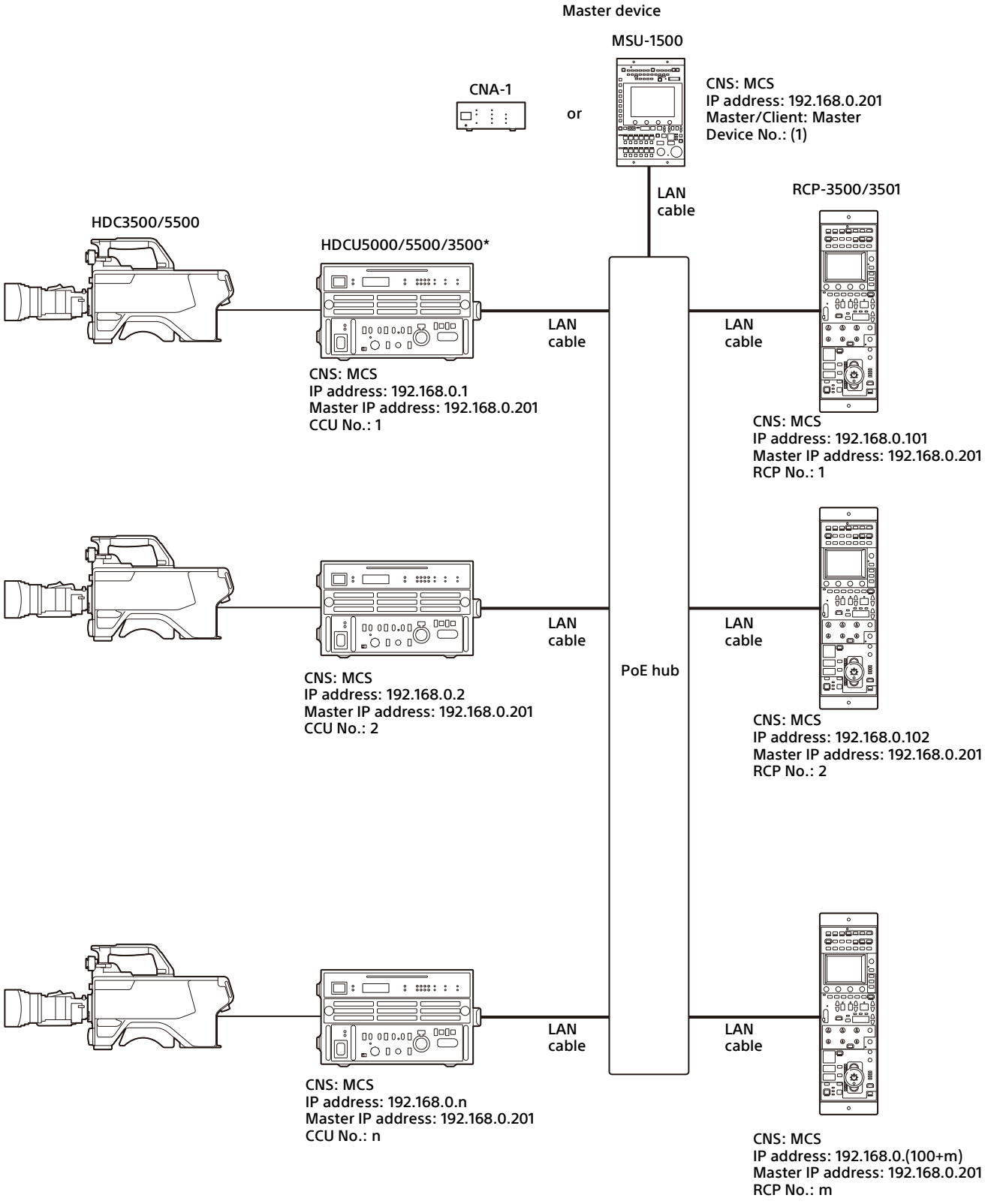
* The diagram shows the HDCU5500/3500.

PC Control mode connection example



- Configured using HZC-RCP5 Camera Remote Control Software.
- CCUs that support PC control are supported.
- Up to six RCP units can be connected.
- Connection example using the RCP Linkage function of HZC-RCP5.

MCS mode connection example



- The master device controls the whole camera system.
- Configure the IP address of each device and the IP address of the master device.
- A master setup unit (MSU) or CNA-1 can be used as the master device.
- Centralized control of devices and assignment of device to control (RCP assignment) are supported using MSU and HZC-CSM1.

* The diagram shows the HDCU5500/3500.

Supported Devices

This unit supports connection to the following devices.
- UHCU-8300
- BPU4800/4500A/4000
- HDRC-4000
- HDCU4300
- HDC4300
- HDCU5500/5000/3500/3100/3170
- HDC5500/5000/3500/3100/3170
- HDCU2500/2000
- HDC2400/2500/2000
- HDC-P50/P1
- HSCU-300R/RF
- HSC-100R/RF
- HSC-300R/RF
- HXCU-FB80/FB70
- HXC-FB80/FB75
- HXCU-TX70
- HXC-P70
- BRC-X1000
- BRC-H800
- HZC-CSM10 (PC-MSU)
- HZC-RCP5 (PC-RCP)
- CNA-1
- MSU-1500/1000
- RCP-1000/1001/1500/1501/1530/3100

For details about the devices other than the above, refer to the connecting information for each device.

Notes

- Use devices with the latest firmware. Proper functioning may not be possible depending on the version.
- The functions available on the control panel may vary depending on the connected camera. If device functions do not operate, check whether the connected device is supported.

Operating Cameras

Camera operation in MCS mode

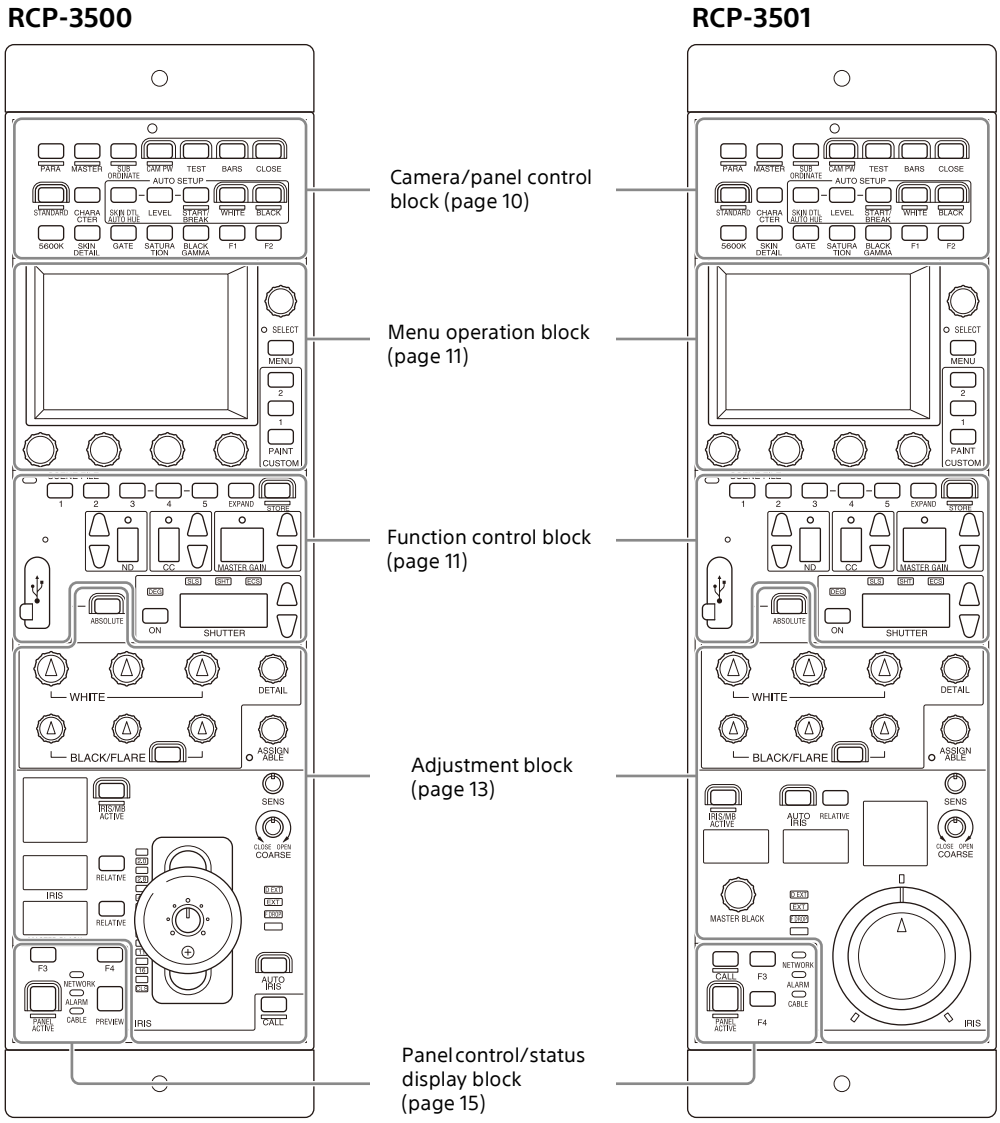
In a multi-camera system (MCS mode), you can operate a camera from multiple remote control panels (RCP) or master setup units (MSU), but only one RCP should have access permission (active) in order to prevent incorrect operation.
- Panel active
  This is the state when the PANEL ACTIVE button is lit. The RCP with active state can operate the corresponding device. Values are displayed on other RCPs, but they cannot operate the device.
- PARA (parallel control)
  You can press the PARA button on a control panel that does not have active state to enable parallel control from more than one controller.
- Iris/Master Black active
  In iris/master black active state, PARA (parallel control) is not available to prevent incorrect operation. Only the RCP on which the IRIS/MB ACTIVE button is lit can operate the device.

Master/subordinate function

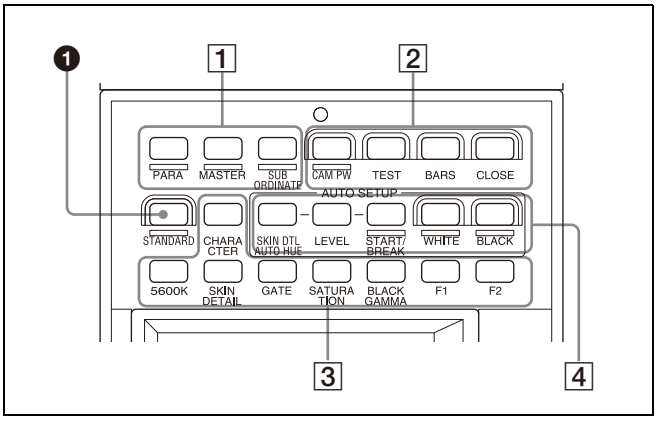
This function adjusts the white balance of cameras based on a master camera.
This is available for systems that use CNU (Command Network Unit) in a Legacy connection. LAN connection is not available.

Names and Functions of Parts

Operation Panel

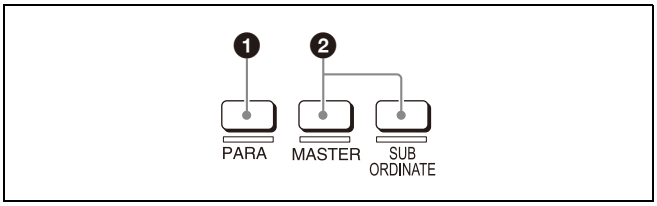


Camera/panel control block



❶ STANDARD button
This button is for accessing the standard state of the camera. After the standard state is recalled, you can cancel the recall by pressing this button again while it is lit.

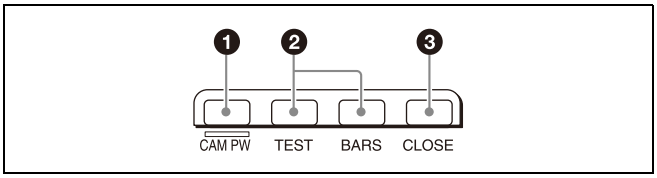
1 Control selection block



❶ PARA (parallel control) button
This is the PARA function button. It allows simultaneous control with the control panel that is panel active.

❷ MASTER and SUBORDINATE buttons
These are the master/subordinate function buttons. A subordinate device is linked to the white balance adjustment of the master device. If both are set to ON, the setting of the master device takes priority.

2 Power/output signal selection block



❶ CAM PW (camera power) button
Press this button to supply power from the CCU to the camera.

Lighting state	Meaning
On	Power is being supplied to the camera.
Off	Power is disconnected from the camera. It is not supplied even if the button is pressed.
Slow flashing	Power is disconnected from the camera. It is supplied when the button is pressed.
Fast flashing	The camera is starting up.

❷ Test signal output selection buttons
This button lights when pressed to output a signal from the test signal generator.
TEST: Camera test signal
BARS: Color bars signal

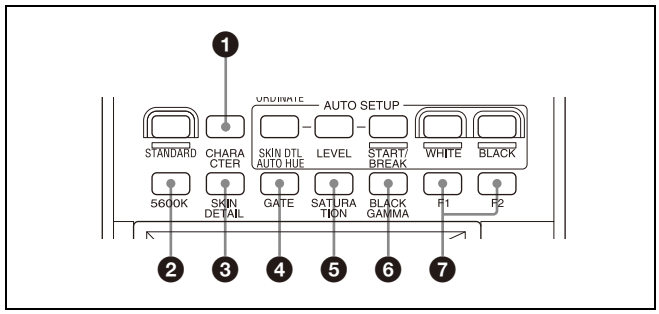
Note

When the BARS button is lit, the function of the BARS button takes priority. When you select TEST, press the BARS button to turn its light off.

❸ CLOSE (iris close) button
This button is for closing the iris of the lens connected to the camera.
Pressing it when the auto iris is on changes the iris indication to CLS (close). Pressing it when the auto iris is off closes the lens iris without changing the iris indication. Pressing it again cancels the iris closing, and the previous state of the iris value is restored.

3 Camera/CCU function ON/OFF buttons
These buttons are for various functions. A function is enabled when its button is lit. A function with an OFF indication is off when the button is lit. The function of buttons ❷ to ❼ can be customized.

For details on customizing buttons, see "To assign functions to assignable adjustment knobs" (page 22).



❶ CHARACTER (text information) button
CCU character button. Press this button to turn character output of the CCU on/off, and to switch to the next page. When this function is on, each press of the button switches to the next page. In the on state, pressing and holding the button switches to the last page. In the off state, character output is stopped. For details about which video output connectors will support character output, refer to the operation manual for the connected device.

❷ 5600K button
Electronic color temperature correction function button. When lit, electronic color temperature correction (5600K) is on.

❸ SKIN DETAIL
This is the skin detail function button.

❹ GATE button
This is the gate function button. When lit, the active area of the function is displayed on the screen (corresponds to skin details and multi matrix gate). For details on what kind of image output the active area is displayed, refer to the operation manual of the device of the connection destination.

❺ SATURATION button
This is the saturation function button.

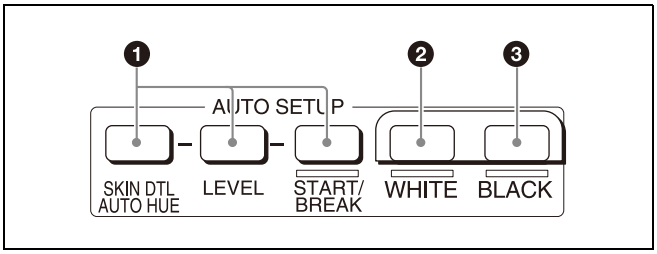
❻ BLACK GAMMA button
This is the black gamma function button.

❼ Assignable button (F1/F2)
You can assign any function to this button.

For details on assigning functions to assignable buttons, see "To assign functions to assignable buttons" (page 21).

4 AUTO SETUP block

These buttons are for automatically adjusting the camera.



❶ AUTO SETUP buttons and START/BREAK button

Pressing one of the following buttons and then pressing the START/BREAK button runs the corresponding automatic adjustment function.

SKIN DTL AUTO HUE: Automatically sets the skin detail to an effective hue.

LEVEL: Runs the auto level setup.

Pressing the START/BREAK button while this function is running stops auto adjustment. The button flashes to indicate that this function is stopped, and pressing the button again stops the flashing indication.

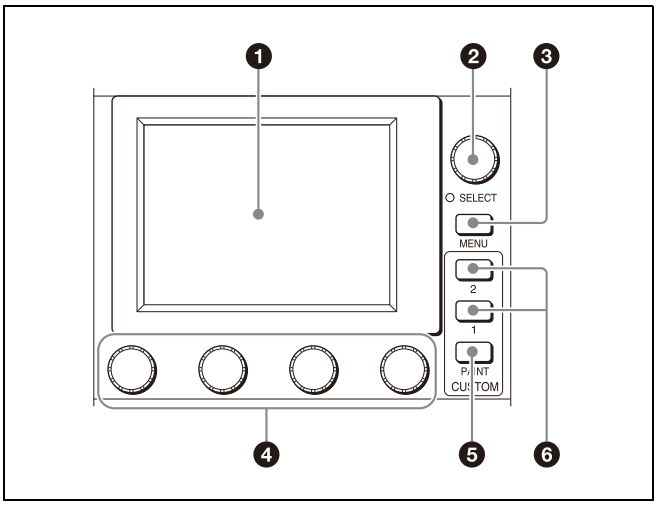
❷ AWB (auto white balance) button

Press this button to start auto white balance adjustment. The button is lit while this adjustment is in progress and goes out when adjustment is finished. Pressing it again while adjustment is in progress will stop automatic adjustment. The button flashes to indicate the function is stopped. Press again to stop the flashing indication.

❸ ABB (auto black balance) button

Press this button to start auto black balance adjustment. The button is lit while this adjustment is in progress and goes out when adjustment is finished. Pressing it again while adjustment is in progress will stop automatic adjustment. The button flashes to indicate the function is stopped. Press again to stop the flashing indication.

Menu operation block



The menu operation block is used to configure the camera and CCU using the LCD and touch panel. Select a menu item using the SELECT knob, and change the adjustment value of the selected item using the four adjustment knobs.

❶ LCD/touch panel

This is for displaying menus and performing operations. The touch panel is an electrostatic capacitive type.

❷ SELECT knob/indicator

The knob can be used when the SELECT indicator is lit. Turn the knob to select menu items (page advance), and press the knob to display the page list.

SELECT indicator

Indicates when the SELECT knob is available for use.

Yellow: Indicates menu page advance is enabled.

❸ MENU button

Press this to light the button to display the Category Select screen.

When the menu and all CUSTOM buttons are not lit, the status screen appears.

❹ Adjustment knobs (rotary encoders)

Use to change the adjustment values displayed at the bottom of the screen.

❺ CUSTOM PAINT button

Displays the CUSTOM PAINT menu. The menu items are configured by menu customization.

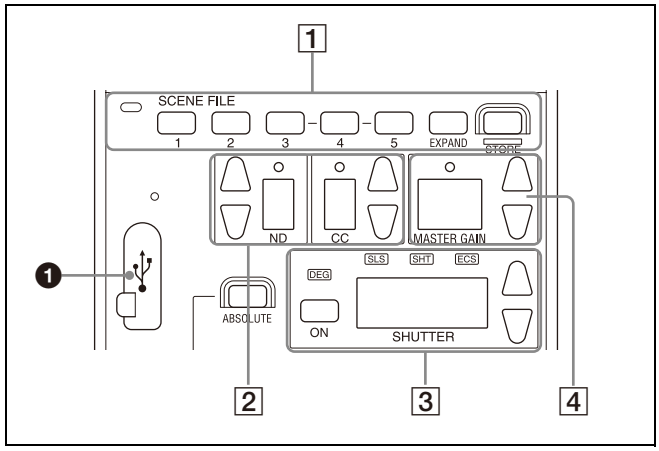
For details on configuring menu items, see "To set the custom paint menu" (page 22).

❻ CUSTOM1/CUSTOM2 buttons

These buttons are for directly accessing frequently used menus. The menus are assigned by menu customization.

For details on configuring menu items, see "To assign menus to custom buttons" (page 23).

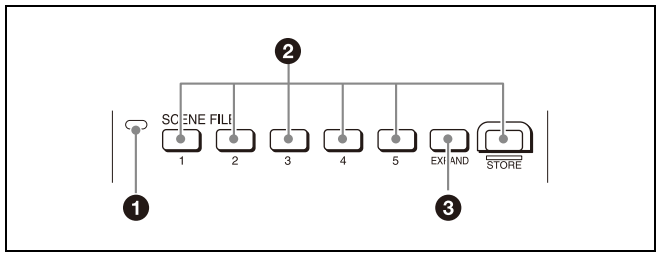
Function control block



❶ USB connector

Use to import/export camera configuration and unit configuration settings.

1 Scene file control block



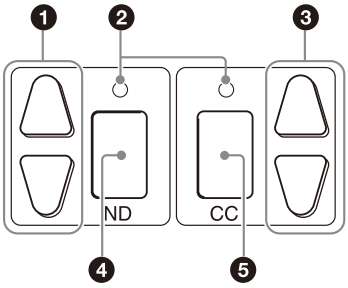
❶ Scene file indicator

This lights when a scene file is read. While any of scenes 1 to 5 is being read, the button with the corresponding number is lit. While any of scenes 6 and above are read, only the LED of SCENE FILE is lit.

❷ SCENE FILE selection buttons and STORE button
These buttons are for registering and reading scene files. To register a scene file, press the STORE button to start it flashing and then press the SCENE FILE button with the corresponding number. When file registration is finished, the STORE button goes out. To cancel storing a file, press the STORE button again so that the STORE button goes out. To read a scene file, press the SCENE FILE button with the corresponding number while the STORE button is not flashing.
The items stored in a scene file vary depending on the connected camera.

❸ EXPAND button
Displays the scene file menu on the LCD. Up to 32 scene files can be displayed using this button.

2 Filter control block



❶ ND filter selection buttons
These are lit when the unit has control permission for the ND filter. When they are not lit, the camera has the control permission. Pressing either the top or bottom button once switches the control permission to the unit. If there is no filter servo or the camera does not have an ND filter, these buttons do not light and the control permission cannot be switched. The ▲(up) button changes the ND filters in order in the forward direction. The ▼(down) button changes them in the reverse direction. Pressing and holding one of the buttons changes the filters continuously.

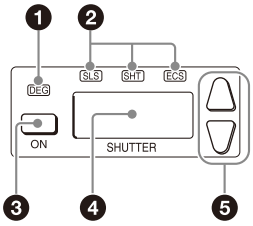
❷ Standard value indicators
These light when standard values are set in the Standard Ind menu. They are lit green in the standard state, and amber in non-standard state.

❸ CC (color temperature conversion) filter selection buttons
These are lit when the unit has control permission for the CC filter. When they are not lit, the camera has the control permission. Pressing either the top or bottom button once switches the control permission to the unit. If there is no filter servo or the camera does not have a CC filter, these buttons do not light and the control permission cannot be switched. The ▲(up) button changes the CC filters in order in the forward direction. The ▼(down) button changes them in the reverse direction. Pressing and holding one of the buttons changes the filters continuously.

❹ ND filter display window
This window displays the ND filter that is currently selected.

❺ CC (color temperature conversion) filter display window
This window displays the CC filter that is currently selected.

3 Shutter control block



❶ DEG indicator
This indicator is lit when the shutter display is indicating an angle value. Configure the setting with the switches in Shutter of the Paint menu.

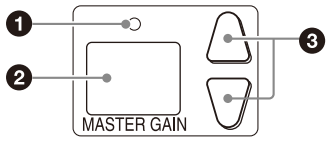
❷ SLS/SHUTTER/ECS indicators
The indicator corresponding to the selected function is lit. Select a function in the menu.
SLS: Slow shutter mode
SHT: Shutter mode
ECS: ECS (Extended Clear Scan) mode

❸ ON button
Displays the on/off status of the selected function. Press this button to switch between on and off status.

❹ Shutter speed display window
This window is for displaying the shutter speed that is currently set. If the DEG indicator is lit while in shutter mode (the SHT indicator is also lit), this window displays an angle value. If the DEG indicator is not lit, the shutter speed is displayed in seconds.

❺ Shutter speed selection buttons
These buttons are for setting the shutter speed. Each press of the ▲(up) button increases the shutter speed, and each press of the ▼(down) button decreases it.

4 Master gain control block

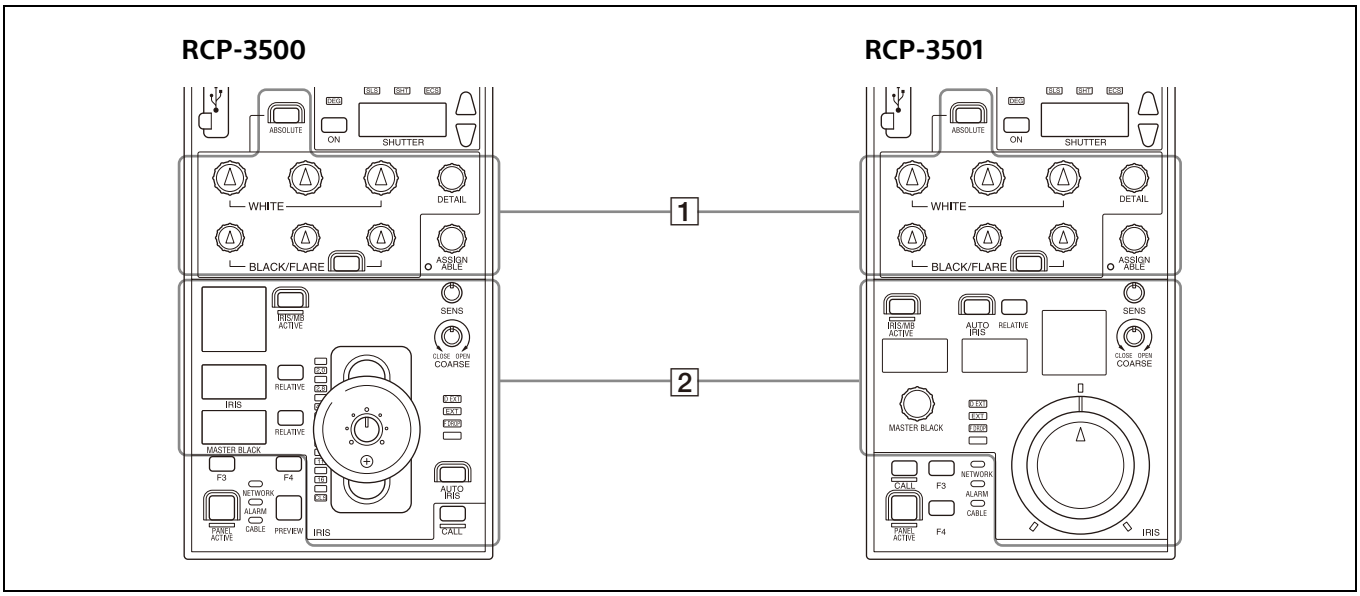


❶ Standard value indicator
This lights when standard values are set in the Standard Ind menu. They are lit green in the standard state, and amber in non-standard state.

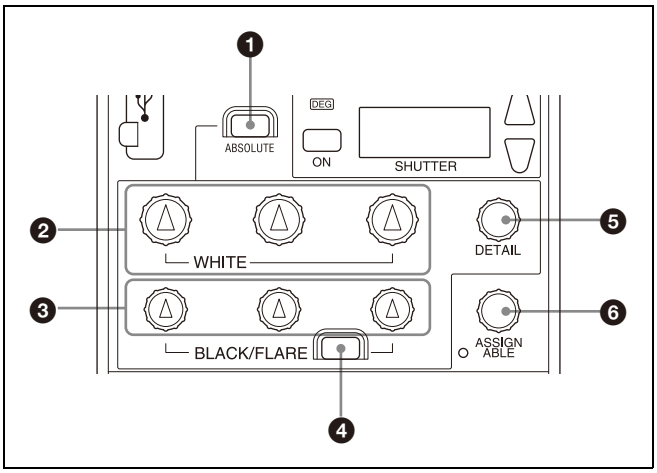
❷ Master gain display window
This window displays the currently configured master gain (dB units).

❸ Master gain selection buttons
This block is for setting the sensitivity of the camera. Each press of the ▲(up) button increases the sensitivity, and each press of the ▼(down) button decreases it. Pressing and holding one of the buttons changes the setting continuously.

Adjustment block



1 White balance/black balance adjustment block



❶ ABSOLUTE button
This button changes the mode for manual adjustment using the WHITE, BLACK, FLARE, and DETAIL knobs between absolute value mode (lit) and relative value mode (not lit). In absolute value mode, a knob indication value becomes that setting value. In relative value mode, a knob indication angle and the setting value do not match.
The relative value mode is selected automatically in the following cases.

- During power up
- When the active status of the panel has changed
- When in PARA or master/subordinate mode
- When auto setup (level, white, and black) finishes
- When a scene file is read
- When the adjustment mode is switched between flare balance and black balance by pressing the FLARE button
- When the controlled CCU/HDCU is changed with the RCP Assign settings

❷ WHITE (manual white balance) knobs
These knobs allow you to adjust the R, G, and B signals in order from left to right.

❸ BLACK/FLARE (manual black balance/flare balance) knobs
When the FLARE button is not lit, these adjust the black balance. When the FLARE button is lit, these adjust the flare balance. They adjust the R, G, and B signals in order from left to right.

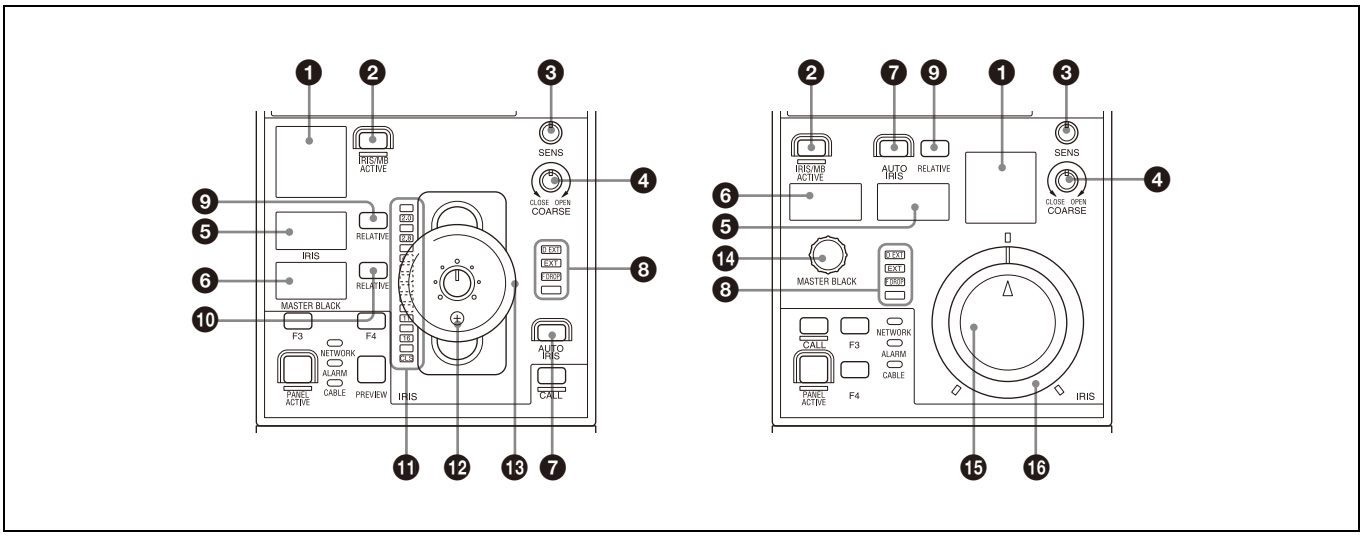
❹ FLARE (flare balance mode) button
This button changes the adjustment mode of the BLACK/FLARE knobs. The knobs adjust the flare balance when the button is lit, and the black balance when the button is not lit.

❺ DETAIL knob
This knob adjusts the detail level.

❻ Assignable adjustment knob
This knob adjusts a preselected item. If a function has been assigned, the indicator is lit green.

For details on selecting the item of the assignable adjustment knob, see "To assign functions to assignable adjustment knobs" (page 22).

2 Iris/master control black adjustment block



❶ Camera number/tally display window
This window displays an amber number for the camera controlled by the unit. When a red tally signal is sent to the camera, a black number is displayed and the background of the number lights in red. When a green tally signal is sent to the camera, a black number is displayed and the background of the number lights in green. When a 3rd tally signal is sent to the camera, a black number is displayed and the background of the number lights in orange.
When multiple tally signals are sent to the camera, the background is split into the corresponding individual colors.
During RCP assignment, the number of the target camera to control flashes.

❷ IRIS/MB ACTIVE (iris/master black active) button
This button is for the iris and master black control permission. The iris and master black can only be adjusted when this button is lit. Pressing the PANEL ACTIVE button also causes this button to light.

❸ SENS (iris adjustment range) knob
Turn this knob to manually adjust the iris in absolute value mode. It does not work in relative value mode.

❹ COARSE (iris coarse adjustment) knob
Turn this knob to manually adjust the iris.

❺ IRIS display window
This window displays the iris setting as an F-number. If the lens is closed, "CLS" is displayed.

❻ Master black display window
This window displays the master black setting value.

❼ AUTO IRIS button
This button is for adjusting the iris automatically.

❽ EXT (lens extender) indicators
EXT: Lights when the lens extender is used.
D EXT: Lights when the digital extender function is turned ON.
F DROP: Lights when a drop in the peripheral brightness occurs.

❾ IRIS RELATIVE (iris relative value mode) button
This button changes the mode of the IRIS manual adjustment value. Relative value mode is enabled when the button is lit, and absolute value mode is enabled when the button is not lit.

For details, see "Adjustment modes" (page 15).

❿ Master black RELATIVE button (RCP-3500)
This button changes the mode of the master black manual adjustment value. Relative value mode is enabled when the button is lit, and absolute value mode is enabled when the button is not lit.

For details, see "Adjustment modes" (page 15).

⓫ IRIS indicators (RCP-3500)
The corresponding LEDs light up according to the iris setting.
When the IRIS RELATIVE (relative value mode) button is not lit, the indicators are lit dimly and indicate the manual adjustment upper and lower limits.

⓬ IRIS control lever (RCP-3500)
Use this lever to manually adjust the iris when the AUTO IRIS button is not lit. When the AUTO IRIS button is lit, you can perform fine adjustment of the reference value for auto adjustment of the iris. You can output a preview signal by pressing down on the lever.

⓭ Master black adjustment ring (RCP-3500)
Turn this ring to adjust the master black manually. The adjustment value is displayed in the master black display window.

⓮ Master black adjustment knob (RCP-3501)
This knob is for manually adjusting the master black. The adjustment value is displayed in the master black display window.

⓯ IRIS adjustment knob (RCP-3501)
This knob is for manually adjusting the iris of the lens when the AUTO IRIS button is not lit. When the AUTO IRIS button is lit, you can finely adjust the reference value for auto adjustment of the iris.

⓰ Iris gauge (RCP-3501)
The white marker line on the gauge provides a click position for the IRIS knob. If you turn the gauge to align the marker line with the most frequently used iris position, it can be used as a setting reference for the IRIS knob.
The gauge rotates 360°, so set the marker line so that it is outside the rotation range of the knob if you do not need a click position.

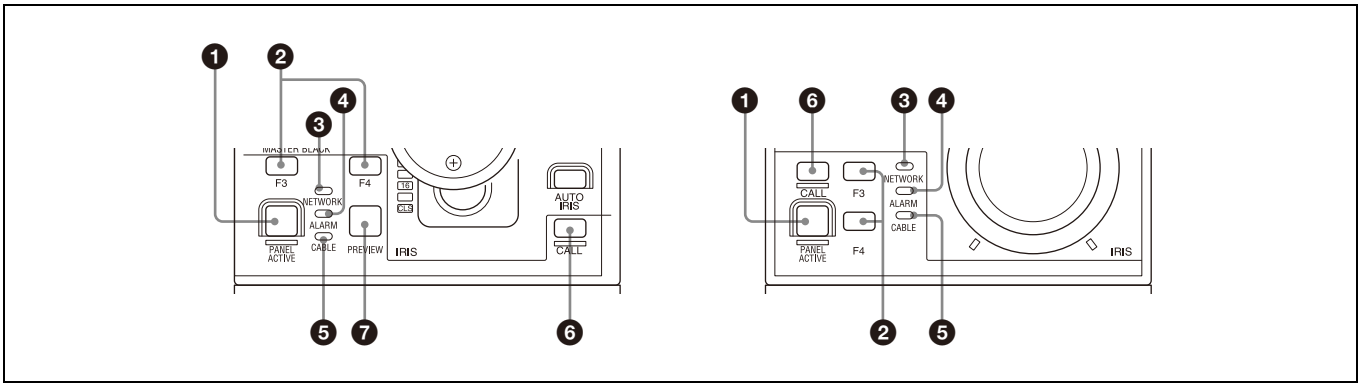
Adjustment modes

Relative value mode (RELATIVE button is lit)
The iris and master black are adjusted relative to initial values set at the positions of each adjustment knob/ring when the RELATIVE button is turned on.
The variable range can be changed using the menu. The initial value is 1/4.
You can adjust the iris over a wider range than the IRIS control lever/knob using the COARSE knob.

For details on changing the variable adjustment range, see "Changing the Sensitivity of the Adjustment Knobs" (page 26).

Absolute value mode (RELATIVE button is not lit)
The IRIS control lever/knob and master black adjustment ring positions directly determine the iris and master black values.
Set the upper and lower limits of the iris adjustment using the COARSE knob and SENS knob.
Set the lower limit on the CLOSE side using the COARSE knob, then set the upper limit on the OPEN side using the SENS knob.

Panel control/status display block



❶ PANEL ACTIVE button

This button is for the control permission. It also serves as a function for preventing unintentional operation because a camera cannot be controlled from this control panel when this button and the PARA button are not lit.

Note

If the connection to the master breaks off in MCS mode system, panel active operations are not possible.
In this case, a long press of the PANEL ACTIVE button forces the availability of the panel active.

❷ Assignable button (F3/F4)

You can assign any function to this button.

For details on assigning functions to assignable buttons, see "To assign functions to assignable buttons" (page 21).

❸ NETWORK indicator

This indicates the status of the network connection.

Lighting state	Meaning
On	Connected to a control device.
Flashing	A control device cannot be found.
Off	Cannot connect to the camera network. Alternatively, the mode is LEGACY.

❹ ALARM indicator

This indicates the status of the unit and status of device controlled by the unit.

Lighting state	Meaning
On (red)	An error occurred on the device controlled by the unit.
On (green)	The unit is starting up.
Flashing (yellow)	An error occurred on the unit. An unsupported USB device was connected. Or the time is not set correctly.
Off	The unit is operating normally.

❺ CABLE indicator

This indicates the communication status of the camera and CCU.

Lighting state	Meaning
On (green)	The reception state is good.
On (yellow)	The reception level is low.
On (red)	The reception level is extremely low.
Off	The power of the camera is off. Alternatively, a communication error occurred.

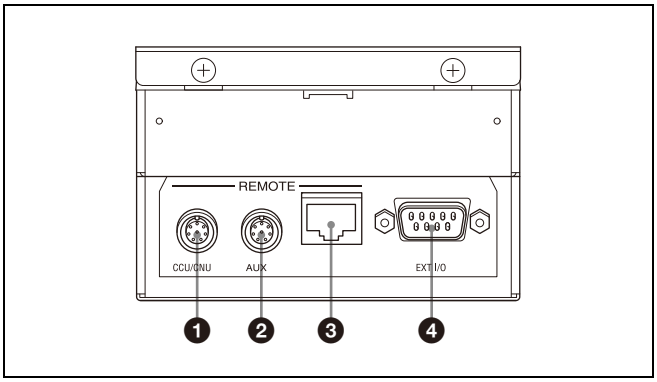
❻ CALL button

This button is for communication. When you press this button, a call signal is sent to the connected camera or CCU. Use this when you want to call a camera operator or an operator of an external control device to talk over the intercom. The button lights when a call signal is received from the connected device. You can change the duration of the button lit state using RCP Mode >Extend Call.

❼ PREVIEW button (RCP-3500)

Press and hold to output a preview signal for as long as the button is pressed.

Connector Panel



❶ CCU/CNU REMOTE (CCU/CNU remote) connector (8-pin multi-connector, female)
This is for connecting to the RCP/CNU connector of the CCU or the RCP connector of the CNU.

❷ AUX REMOTE (auxiliary remote) connector (8-pin multi-connector, female)
This is a spare connector.

❸ 🖧 (LAN) connector
Use to connect to a LAN. Use a LAN cable (shielded type, category 5e) to connect to a hub. This connector can receive power when connected to an IIEEE802.3af compliant PoE hub.

❹ EXT I/O connector (D-sub 9-pin, female)
This is used for external interface connections.

For details on pin specifications, see "Pin Assignment" (page 58).

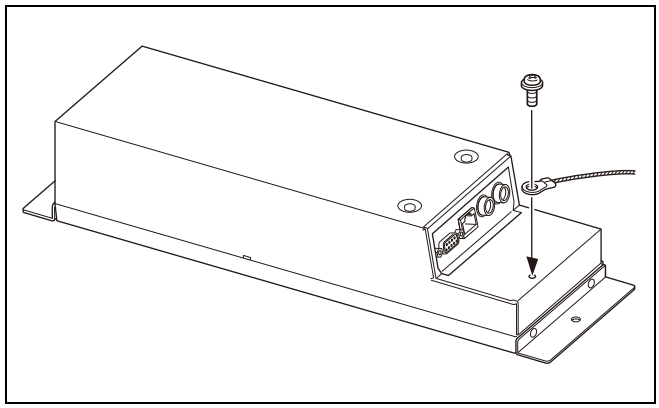
Installation

Connection Precautions

Ground the control panel in the following cases.
- When connecting using just a LAN cable

To connect a safety ground wire to the bottom of the control panel

1 Attach to a safety ground using a ground connection screw.
Use an M3 screw with length 10 mm or shorter to attach the ground terminal.



Length of cables

Connection via CCA-5 cable

The maximum length of connections from a CCU to the unit using a CCA-5 cable is 200 m (656 ft).

Connection via LAN cable

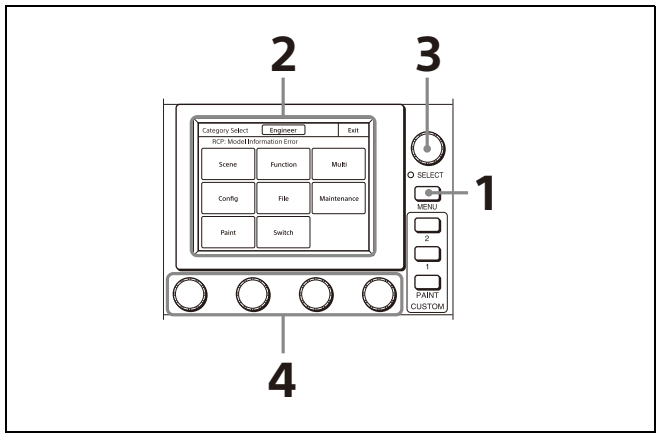
The maximum length of connections from a PoE compatible hub to the unit using a LAN cable is 100 m (328 ft).

Settings

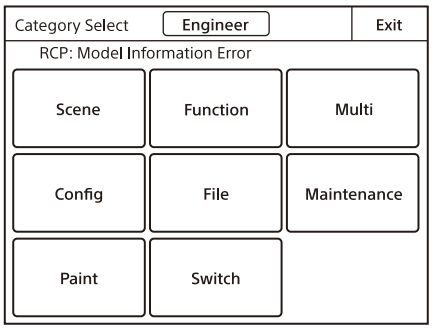
The following procedures describe the state when the RCP Config screen is displayed.

Menu Operations

Use the touch panel and the buttons around the LCD to configure the settings of the unit.



1 **Press the MENU button.**
The Category Select screen appears.



2 **Press a button on the Category Select screen to select a menu.**
Scene **:** Scene Menu (page 55)
Function **:** Function Menu (page 55)
Multi **:** Multi Menu (page 56)
Config **:** Config Menu (page 48)

The following menu items are added when the control panel is in engineer mode or Full Paint of Page Permission is set to ON.
File **:** File Menu (page 40)
Maintenance **:** Maintenance Menu (page 41)
Paint **:** Paint Menu (page 30)

When you select a menu, the corresponding setting and adjustment screen for the menu appears.

3 **Select the item to operate.**
- For a menu (Paint menu, etc.) consisting of multiple pages, turn the SELECT knob to select an item and then press the SELECT knob to display the setting and adjustment screen for that item. Turning the SELECT knob after the setting and adjustment screen is displays allows you to switch to another item.
- When tabs are displayed in the setting and adjustment screen, press a tab to switch to the setting item.

4 **Set or adjust the item.**
- Turn the adjustment knob (or press the button) in accordance with the setting and adjustment item (parameter) to adjust the setting value (select a setting).
- When a message screen appears, perform the operation in accordance with the message, and then press OK.

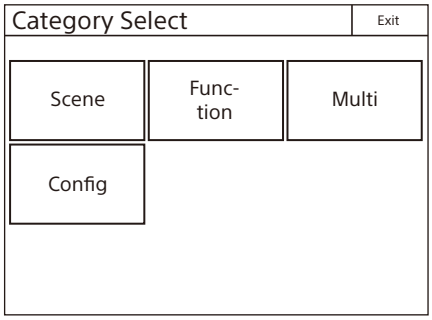
When the setting or adjustment is finished

- To adjust another item of the same menu, turn the SELECT knob to switch to the setting and adjustment screen for that item.
- To adjust a different menu, press Exit to return to the Category Select screen, and then select another menu.
- To close the menu, press Exit in the Category Select screen.

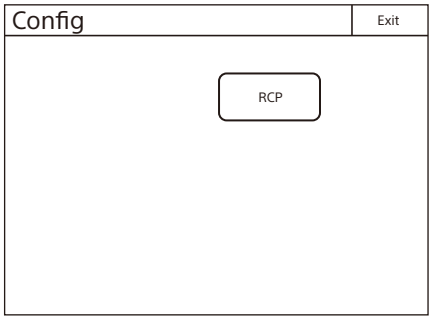
Displaying the RCP Config Screen

Use the following procedure to display the RCP Config screen in order to configure the unit.
For settings that require engineer mode, enter engineer mode and then display the RCP Config screen.

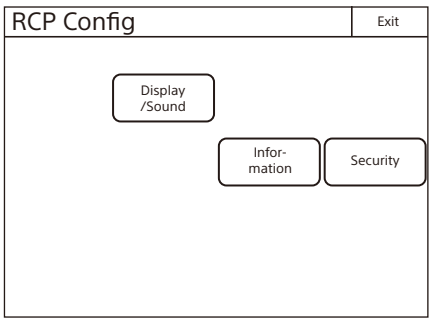
1 **Press the MENU button.**
The Category Select screen appears.



2 **Press Config.**
The Config screen appears.



3 **Press RCP.**
The RCP screen appears.

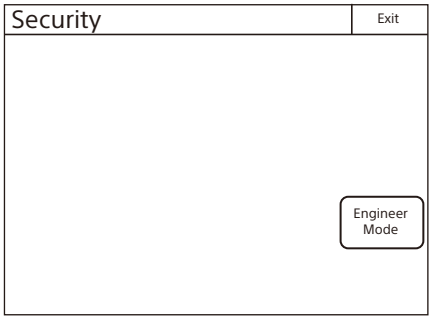


Entering Engineer Mode

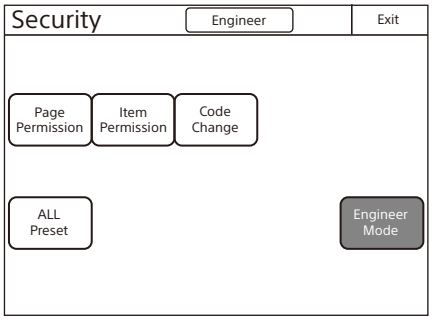
Some settings of the control panel have their functions restricted and are not displayed to prevent unintentional operation. When you enter engineer mode, the restrictions are cancelled.
Use the following procedure to enter engineer mode.

1 **Display the RCP Config screen.**

2 **Press Security.**
The Security screen appears.



3 **Press Engineer Mode to light the button.**
The items that were hidden appear.



Notes

- To exit engineer mode, press Engineer Mode so that the button light turns off.
- If a security code has been configured (page 54), a security code entry screen will appear when you press Engineer Mode. Enter the correct security code and press OK to enter engineer mode.

Setting the Clock

The control panel has an internal clock for recording the date and time at which reference files and scene files are saved to a USB drive.
This setting is configured in engineer mode.
Use the following procedure to set the clock.

1 **Press Date/Time on the RCP Config screen.**
The Date/Time screen appears.

2 **Set the time zone.**

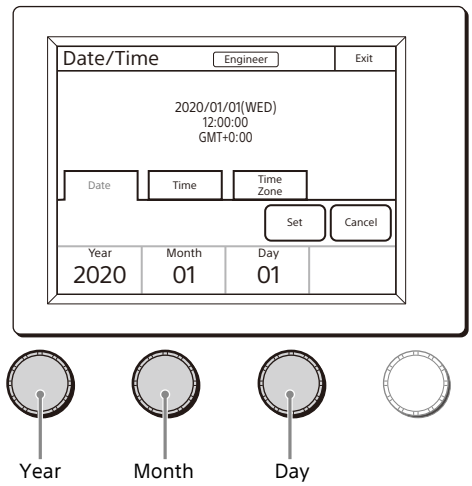
① Press and highlight the Time Zone tab.

② Set your region with the adjustment knobs. Set the hour offset from Greenwich Standard Time.

③ Press Set.

3 **Set the date.**

① Press and highlight Date.

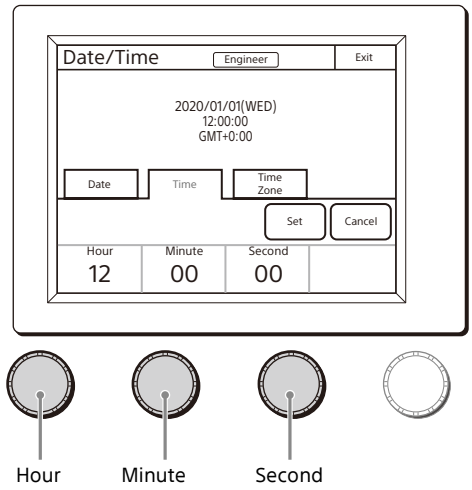


② Set the Year, Month, and Day with the left three adjustment knobs.

③ Press Set.

4 **Set the time.**

① Press and highlight Time.



② Set the Hour, Minute and Second with the left three adjustment knobs.

③ Press Set in synchronization with a time signal.

Setting the Connection

Configure the settings for connection of the unit with other devices.
All connection settings are configured in engineer mode.

Connection via CCA-5 cable

Setting LEGACY Mode

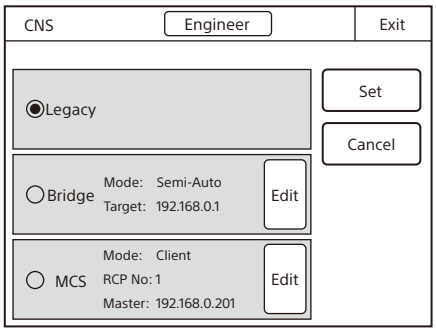
When the unit and camera device are connected using a CCA-5 cable, set LEGACY mode.

For details about connections, see "LEGACY mode connection example" (page 5).

The TCP/IP and RCP number do not need to be set.

1 **Press [Network] on the RCP Config screen.**
The Network screen appears.

2 **Press [CNS].**
The CNS screen appears.



3 **Press [Legacy].**

4 **Press [Set].**
The control panel is set to LEGACY mode.

Connection via LAN

Setting BRIDGE Mode

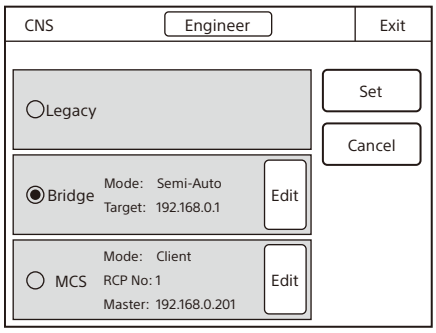
Connect the unit and camera device 1-to-1 on a LAN.

For details about connections, see "BRIDGE mode connection example" (page 5).

Configure the TCP/IP settings of the unit and the IP address of the connected device (target device).
Configure this unit as the target for the settings on the connected device.
The RCP number does not need to be set.
Multi-camera operation is not possible in BRIDGE mode.

1 **Press [Network] on the RCP Config screen.**
The Network screen appears.

2 **Press [CNS].**
The CNS screen appears.

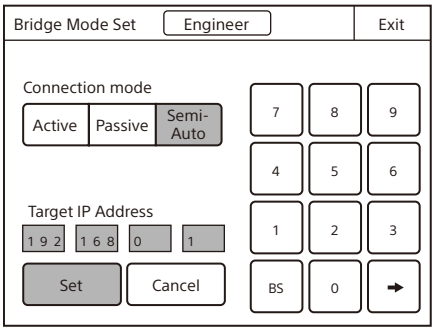


3 **Press [Bridge].**

4 **Press [Set].**
The control panel is set to BRIDGE mode.

5 **Set the connection mode.**

① Press [Edit].
The Bridge Mode Set screen appears.



② According to the connection status, press one of the following three buttons to set the sub mode of BRIDGE mode.
[Active]**:** Performs the process to connect to the target by itself.
[Passive]**:** Waits for a connection from the target.
[Semi-Auto]**:** Switches between Active and Passive depending on the connection environment. Active is enabled when the RCP stands alone, and Passive is enabled when the RCP is connected to a CCU or camera via a CCA-5 cable.

6 **Set the IP address of the connected device.**

① Set the target IP address.
Press the IP address input field, and then use the numeric keypad on the screen to enter the IP address.

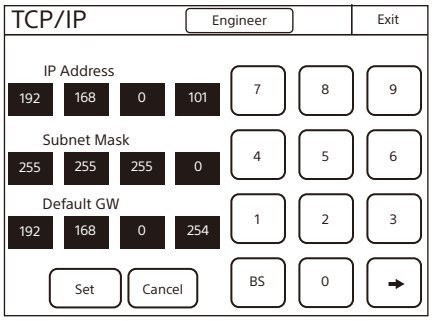
② Press [Set].

7 **Press [Exit].**
The CNS screen reappears.

8 **Press [Exit].**
The Network screen reappears.

9 **Set TCP/IP.**

① Press TCP/IP.
The TCP/IP screen appears.



② Set the IP address, subnet mask, and default gateway.
Press the corresponding input field, and then use the numeric keypad on the screen to enter the information.

③ Press Set.

10 Press Exit.
The Network screen reappears and the control panel is set to BRIDGE mode.

Setting Multi-Camera System (MCS) Mode

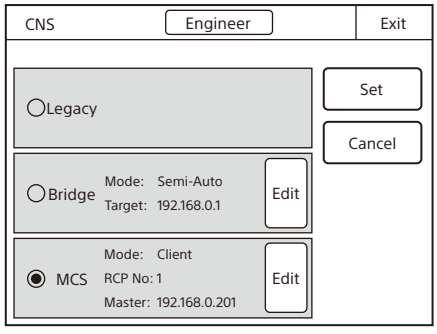
Set the control panel to MCS mode when using it in a multi-camera system on a LAN.

For details about connections, see "MCS mode connection example" (page 7).

In MCS mode, in addition to the TCP/IP settings of the unit and IP address of the master device, the RCP number must also be set. The RCP number corresponds to the camera selection number of the MSU. Configure the setting so that there will not be a duplicate within the system.
One device needs to be the master device in MCS mode. An MSU or CNA-1 can be used as the master device. When using multiple MSU devices, configure one as the master and the others as clients.
Also, set MCS mode when a LAN cable is connected to this unit and connecting to a CCU using a CCA-5 cable.

1 Press Network on the RCP Config screen.
The Network screen appears.

2 Press CNS.
The CNS screen appears.

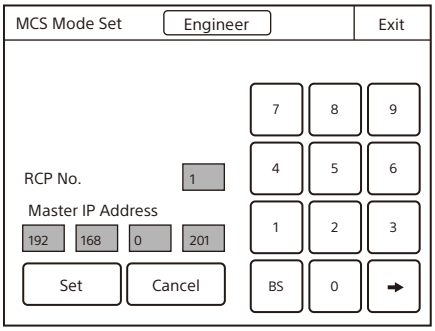


3 Press MCS.

4 Press Set.
The control panel is set to MCS mode.

5 Set the IP address and RCP number of the master device.

① Press Edit.
The MCS Mode Set screen appears.



② Set the IP address of the master device.
Press the IP address input field, and then use the numeric keypad on the screen to enter the IP address.

③ Set the RCP number.
Press the RCP No. input field, and then use the numeric keypad on the screen to enter the RCP number.

Note

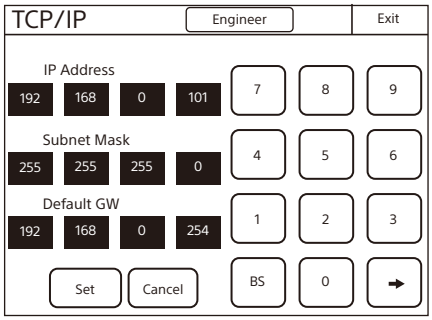
If an RCP number is duplicated, the equipment will not function normally. Be sure to set a number that will not be a duplicate of that of another MCS.

④ Press Set.

6 Press Exit.
The Network screen reappears.

7 Set TCP/IP.

① Press TCP/IP.
The TCP/IP screen appears.



② Set the IP address, subnet mask, and default gateway.
Press the corresponding input field, and then use the numeric keypad on the screen to enter the information.

③ Press Set.

8 Press Exit.
The Network screen reappears and the control panel is set to MCS mode.

Setting Security Restrictions

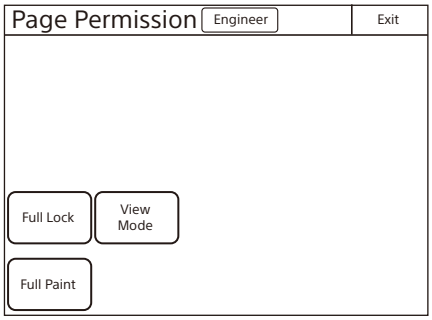
To set the security level

You can limit the functions that can be controlled by the unit to prevent incorrect operation during operation.
This setting is configured in engineer mode.

1 **Press [Security] on the RCP Config screen.**
The Security screen appears.

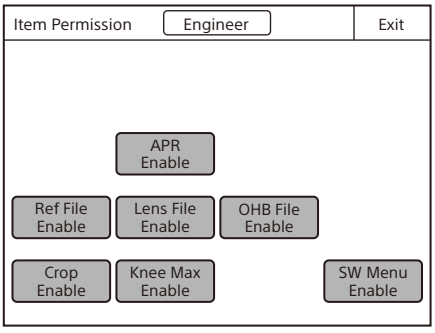
2 **Set the security level.**
The settings for the security level are split into two screens. Press each of the buttons to display each setting screen and configure the security level settings.

When [Page Permission] is pressed:



The following settings can be configured.
[Full Lock]: Press this to light the button and prohibit all operations of the control panel.
[View Mode]: Press this to light the button and prohibit all operations of the control panel except for viewing data.
[Full Paint]: Press this to light the button to display the [Paint] button on the Category Select screen. When this button is displayed, all [Paint] menu operations become available. Normally, assign the required page to the CUSTOM PAINT button.

When [Item Permission] is pressed:



The following settings can be configured.
[APR Enable]: Press this to light the button and add the [APR] button to the Maintenance menu. The APR function of the control panel is permitted.
[Ref File Enable]: Press this to light the button and permit the setting of the reference files of the control panel.
[Lens File Enable]: Press this to light the button and permit the setting of the lens files of the control panel.
[OHB File Enable]: Press this to light the button and permit the setting of the OHB files of the control panel.
[Crop Enable]: Press this to light the button and permit the setting of 16:9 → 4:3 Crop of the control panel.
[Knee Max Enable]: Press this to light the button and permit the knee max function.
[SW Menu Enable]: Press this to light the button and add the [Switch] button to the Category Select menu and display a menu that allows you to turn all the main camera functions ON/OFF at the same time.

3 **Press [Exit] when the settings are finished.**
The Security screen reappears.

4 **Press [Engineer Mode] to cancel engineer mode.**

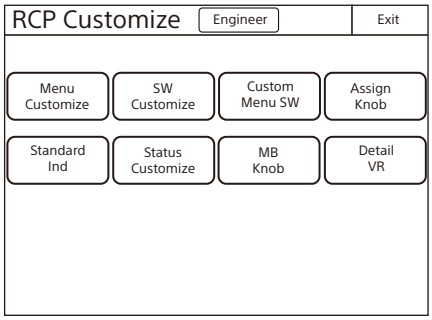
Customization

This setting is configured in engineer mode.

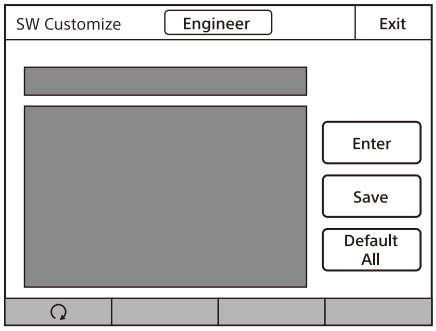
To assign functions to assignable buttons

You can assign functions to the F1 to F4 assignable buttons and the other buttons in the row immediately above the LCD. You can also access menus directly by assigning these as CUSTOM3 to 5 buttons.

1 **Press [Customize] on the RCP Config screen.**
The RCP Customize screen appears.

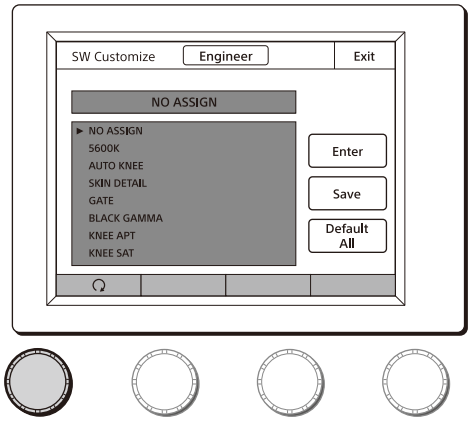


2 **Press [SW Customize].**
The SW Customize screen appears.



All of the assignable buttons light immediately after this screen is displayed.

3 **Press the button for which to change the assigned function.**
The function that is currently assigned to the pressed button appears on the SW Customize screen.
A list of assignable functions also appears.



4 **Turn the adjustment knob on the far left to select the function to assign to the button.**
Turning the adjustment knob on the far left moves the cursor (►) in the list up or down. If you place a cursor over the function to assign, the function name is displayed in amber.

5 **Press** Enter**.**
The function assigned to the button changes to the function that was selected in the previous step. At this time, "*" appears in front of the function name.

6 **Repeat steps 3 to 5 if you want to assign functions to multiple buttons.**

7 **Press** Save**.**
The confirmation message screen appears.

8 **Press** Save**.**
The function assignments of assignable buttons are saved.
If you exit the menu without saving, the function assignments will not be reflected.

To reset the function assignments of assignable buttons to their default settings

1 **Press** Default All**.**
The confirmation message screen appears.

2 **Press** OK**.**
The function assignments of assignable buttons are reset to their default settings.

3 **Press** Save**.**
The confirmation message screen appears.

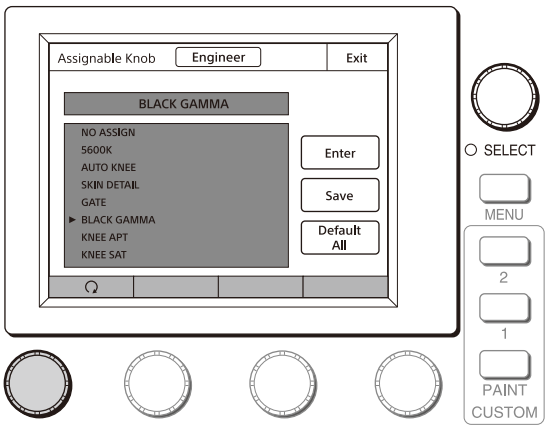
4 **Press** Save**.**
The function assignments of assignable buttons are saved and registered to the control panel.

To assign functions to assignable adjustment knobs

Select the function to assign to the assignable adjustment knob.

1 **Press** Customize **on the RCP Config screen.**
The RCP Customize screen appears.

2 **Press** Assign Knob**.**
The Assignable Knob screen appears.
The function that is currently assigned to the pressed button appears on the Assignable Knob screen.
A list of assignable functions also appears.



3 **Turn the adjustment knob on the far left to select the function to assign to the assignable adjustment knob.**
Turning the adjustment knob on the far left moves the cursor (►) in the list up or down. If you place a cursor over the function to assign, the function name is displayed in amber.

4 **Press** Enter**.**
The function assigned to the button changes to the function that was selected in the previous step. At this time, "*" appears in front of the function name.

5 **Press** Save**.**
The confirmation message screen appears.

6 **Press** Save**.**
The function assignments of assignable adjustment knobs are saved.
If you exit the menu without saving, the function assignments will not be reflected.

To reset the function assignments of assignable adjustment knobs to their default settings

1 **Press** Default All**.**
The confirmation message screen appears.

2 **Press** OK**.**
The function assignments of assignable adjustment knobs are reset to their default settings.

3 **Press** Save**.**
The confirmation message screen appears.

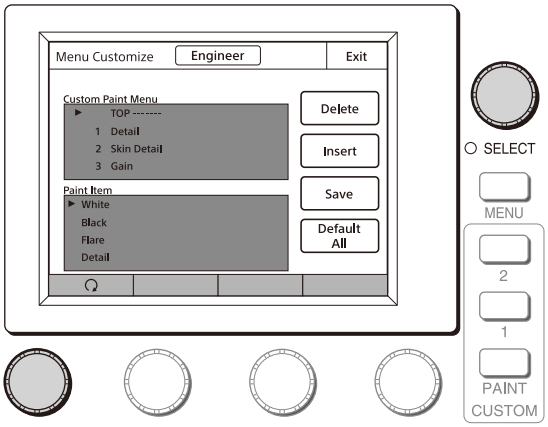
4 **Press** Save**.**
The function assignments of assignable adjustment knobs are saved.
If you exit the menu without saving, the function assignments will not be reflected.

To set the custom paint menu

Set the menu items that can be operated when the CUSTOM PAINT button on the unit is pressed. These paint items can be used by general users.

1 **Press [Customize] on the RCP Config screen.**
The RCP Customize screen appears.

2 **Press [Menu Customize].**
The Menu Customize screen appears.



This screen contains two lists, one at the top and the other at the bottom. The top list displays the custom paint menu items. The bottom list displays the paint menu items that can be added to the custom paint menu. You can edit the custom paint menu by selecting paint menu items in the bottom list and adding them to the top list.

To add a paint menu item to the custom paint menu

1 **Turn the adjustment knob on the far left to select the paint menu item to add to the custom paint menu from the bottom list.**
Turning the paint adjustment knob on the far left moves the cursor (▶) in the bottom list up or down. If you align the cursor with the paint menu item to add to the custom paint menu, that paint menu item is displayed in amber.

2 **Turn the SELECT knob to specify the position to insert the paint menu item in the top list.**
Turning the SELECT knob moves the cursor (▶) in the top list up or down. Align the cursor with the item above the position to insert the paint menu item. The paint menu item at the cursor position is displayed in amber.

3 **Press [Insert].**
The paint menu item selected in the bottom list is added below the item at the cursor position in the top list.

4 **Repeat steps 1 to 3 if you want to add multiple paint menu items.**

5 **Press [Line] to insert a separator line between items in the custom paint menu if necessary.**
The separator line is inserted below the item at the cursor position in the top list.

6 **Press [Save].**
The confirmation message screen appears.

7 **Press [Save].**
The contents of the custom paint menu are saved and registered to the control panel.

To delete a paint menu item from the custom paint menu

1 **Turn the SELECT knob to select the paint menu item to delete in the top list.**

2 **Press [Delete].**
The selected paint menu item is deleted from the top list.

3 **Select the paint menu item above a separator line and then press [Line] when you want to delete a separator line.**

4 **Press [Save].**
The confirmation message screen appears.

5 **Press [Save].**
The contents of the custom paint menu are saved and registered to the control panel.

To reset the custom paint menu to the default settings

1 **Press [Default All].**
The confirmation message screen appears.

2 **Press [OK].**
The contents of the custom paint menu are reset to the default settings.

3 **Press [Save].**
The confirmation message screen appears.

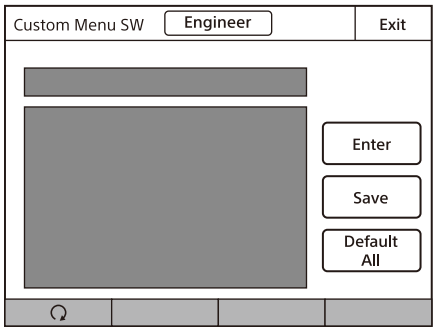
4 **Press [Save].**
The contents of the custom paint menu are saved and registered to the control panel.

To assign menus to custom buttons

You can assign any menu to a custom button on the control panel. A menu can also be assigned to an assignable button that has been assigned as a custom button.

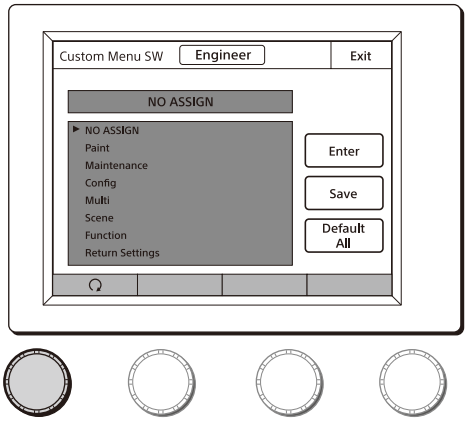
1 **Press [Customize] on the RCP Config screen.**
The RCP Customize screen appears.

2 **Press [Custom Menu SW].**
The Custom Menu SW screen appears.



All of the custom buttons light immediately after this screen is displayed.

3 **Press the button for which to change the assigned function.**
The function that is currently assigned to the pressed button appears on the Custom Menu SW screen.
A list of assignable functions is also displayed.



4 **Turn the adjustment knob on the far left to select the function to assign to the button.**
Turning the adjustment knob on the far left moves the cursor (▶) in the list up or down. If you place a cursor over the function to assign, the function name is displayed in amber.

5 **Press** Enter**.**
The function assigned to the button changes to the function that was selected in the previous step. At this time, "*" appears in front of the function name.

6 **Repeat steps 3 to 5 if you want to assign functions to multiple buttons.**

7 **Press** Save**.**
The confirmation message screen appears.

8 **Press** Save**.**
The function assignments of custom buttons are saved. If you exit the menu without saving, the function assignments will not be reflected.

Note

When you assign one of the following items from the paint menu to a custom button, the same menu must also be registered in the custom paint menu. First register the item in the custom paint menu, and then configure the custom button (CUSTOM1 to 5).

- Skin Detail
- Gain
- Gamma
- Black Gamma
- Knee
- Shutter
- Saturation
- Flicker Reduction
- White
- Black
- Flare
- Detail
- Matrix
- V Mod Saw
- White Clip
- Auto Iris
- Mono Color
- Noise Suppression
- Gamma/Knee
- Low Key Saturation
- Knee Saturation
- Gamma Table

Setting the User Interface

All the user interface settings can be configured in normal mode.

To set the sounds

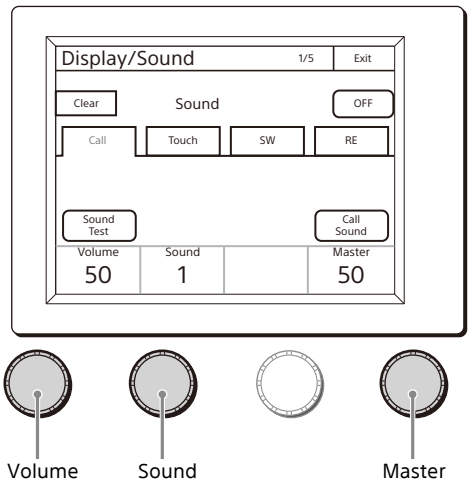
You can select the sound and volume played when operating the unit and when a call is received.

1 **Press** Display/Sound **on the RCP Config screen.**
The Display/Sound screen appears.

2 **Turn the SELECT knob to select "Sound."**
The Sound screen appears.

The Sound screen can also be displayed after you press the SELECT knob if you turn the SELECT knob to select "Sound" and then press the SELECT knob.

3 **Select the type of sound to set.**
Four types of sound can be configured. Press the tab to display the setting screen of the desired sound, and then set each of the sound settings.



Call: Sets the sound played when call signals are received.
Touch: Sets the sound played when the LCD/touch panel is touched.
SW: Sets the sound played when the buttons are pressed.
RE: Sets the sound played when the adjustment knobs are turned.

4 **Turn the adjustment knobs to set the sound.**
The following settings can be configured.
Volume: Adjusts the volume.
Sound: Selects the type of sound.
Master: Adjusts the master volume.
To confirm a sound, press Sound Test to play the sound.

To turn ON/OFF the sound for each type

One of following buttons is displayed in each of the sound setting screens to turn ON/OFF the sound. You can press the button to turn ON/OFF the sound. The sound turns ON when the button lights.

Call Sound: Turns ON/OFF the sound played when call signals are received.

Touch Click: Turns ON/OFF the sound played when the LCD/touch panel is touched.

Switch Click: Turns ON/OFF the sound played when the buttons are pressed.

RE Click: Turns ON/OFF the sound played when the adjustment knobs are turned.

To turn off all sounds

Press OFF to light the button.

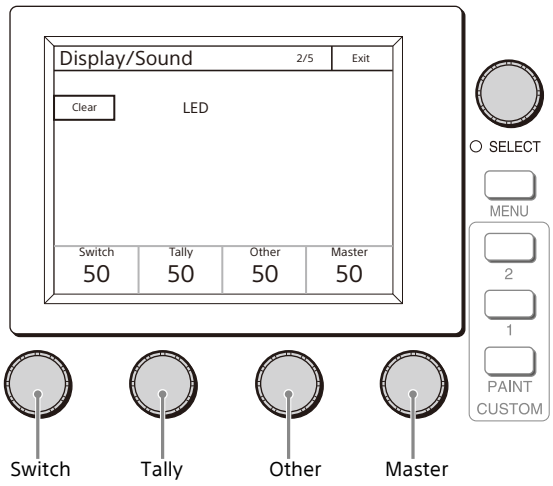
To set the brightness of the LEDs

You can adjust the brightness of the operation buttons and tally display window on the control panel.

1 **Press Display/Sound on the RCP Config screen.**
The Display/Sound screen appears.

2 **Turn the SELECT knob to select "LED."**

The LED screen appears.The LED screen can also be displayed after you press the SELECT knob if you turn the SELECT knob to select "LED" and then press the SELECT knob.



3 **Turn the adjustment knobs to set the brightness of the LEDs.**
The following settings can be configured.

Switch: Sets the brightness of the LEDs built into the operation buttons.

Tally: Sets the brightness of the camera number/tally display window.

Other: Sets the brightness of the indicators.

Master: Sets the brightness of all LEDs.

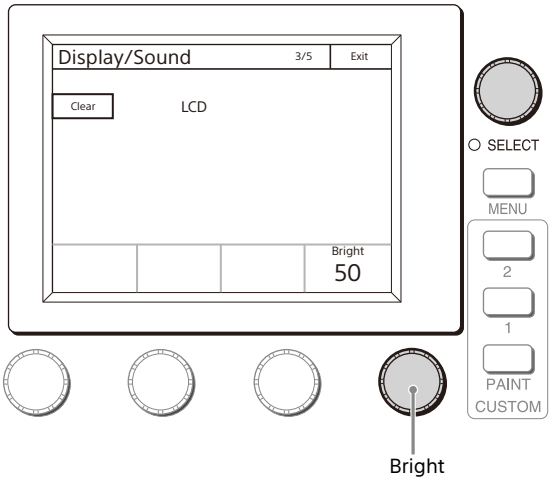
To adjust the LCD

You can adjust the brightness of the LCD of the menu operation block.

1 **Press Display/Sound on the RCP Config screen.**
The Display/Sound screen appears.

2 **Turn the SELECT knob to select "LCD."**
The LCD screen appears.

The LCD screen can also be displayed after you press the SELECT knob if you turn the SELECT knob to select "LCD" and then press the SELECT knob.



3 **Turn the adjustment knobs to set the brightness of the LCD.**
The following setting can be configured.

Bright: Sets the brightness of the LCD.

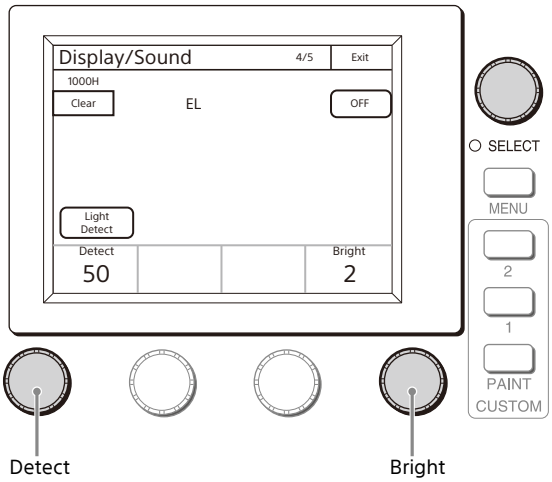
To set the brightness of text characters

The EL backlight can be set so that the characters on the panel are slightly brighter. This makes the characters easy to see in dark surroundings.

1 **Press Display/Sound on the RCP Config screen.**
The Display/Sound screen appears.

2 **Turn the SELECT knob to select "EL."**
The EL screen appears.

The EL screen can also be displayed after you press the SELECT knob if you turn the SELECT knob to select "EL" and then press the SELECT knob.



3 **Turn the adjustment knobs to change the setting.**
The following settings can be configured.

Detect: Specifies the surrounding brightness at which to turn OFF the EL backlight automatically. If you press the Light Detect button to light the button, the EL backlight turns OFF when the brightness specified here is detected.

Bright: Adjusts the brightness of the EL backlight.

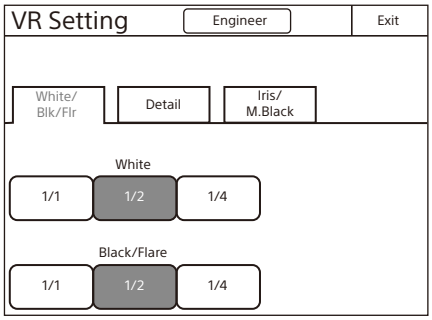
To turn OFF the character light setting
Press OFF to light the button.

Changing the Sensitivity of the Adjustment Knobs

You can change the sensitivity of the WHITE, BLACK/FLARE, DETAIL, IRIS, and master black adjustments for when they are used in relative value mode.

This setting is configured in engineer mode.

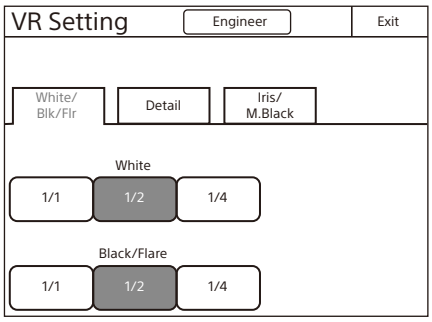
1 Press VR Setting on the RCP Config screen.
The VR Setting screen appears.



The following steps differ depending on the type of knob to be adjusted (WHITE or BLACK/FLARE, DETAIL, IRIS, or master black).

To adjust the sensitivity of the WHITE and BLACK/FLARE knobs

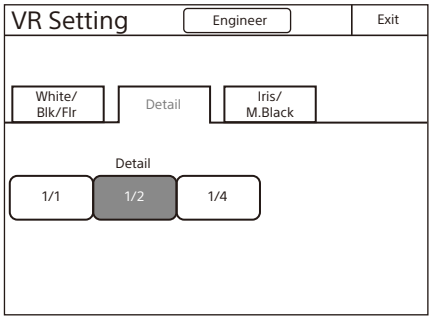
1 Press the White/Blk/Flr tab.



2 Press the sensitivity (number) you want to set for each of the adjustment knobs.

To adjust the sensitivity of the DETAIL knob

1 Press the Detail tab.



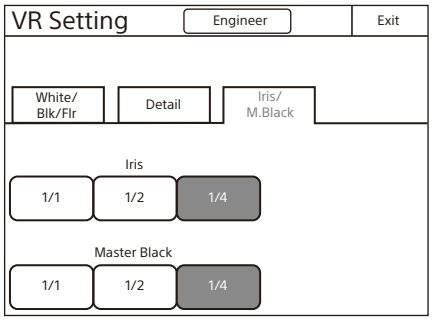
2 Press the sensitivity (number) you want to set for each of the adjustment knobs.

To adjust the sensitivity of the iris and master black

Note

Master black adjustment is not available on the RCP-3501.

1 Press the Iris/M.Black tab.



2 Press the sensitivity (number) you want to set for each of the adjustment knobs.

Saving and Initializing Settings

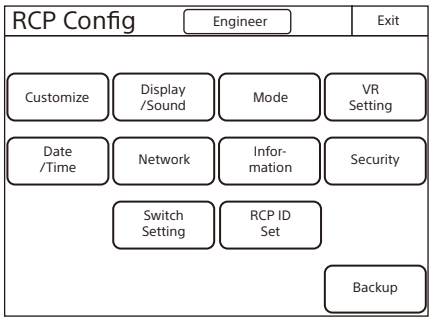
To save the settings of the unit to a USB drive

The settings of the unit can be saved to a USB drive and loaded from a USB drive.

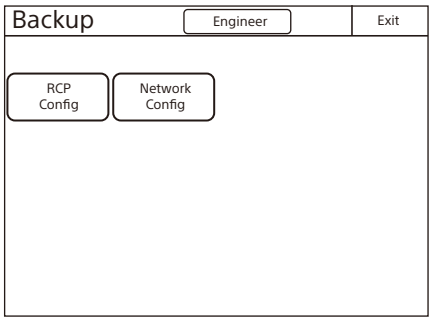
1 Insert the USB drive into the USB connector.

2 Enter engineer mode (page 18).

3 Display the RCP Config screen.

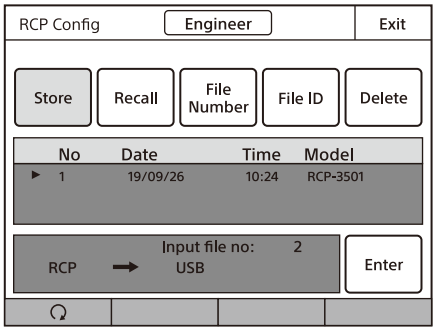


4 Press Backup.
The Backup screen appears.

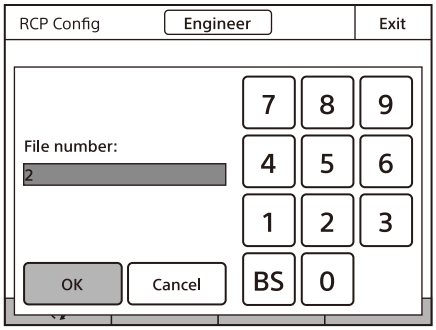


5 Select the settings to save.
RCP Config**:** RCP customization settings, excluding network settings
Network Config**:** Network settings

6 **Press [Store].**
The screen changes as follows.

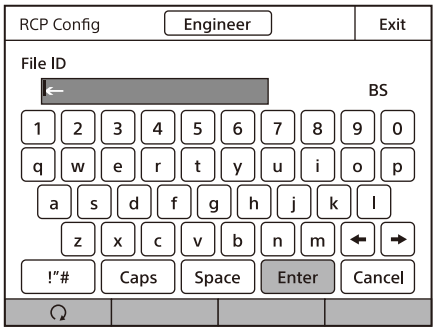


7 **Press [File Number] or use the leftmost adjustment knob to select the file number, and press [Enter].**
When [File Number] is pressed, the file number entry screen appears as follows. Enter the file number, and then press [OK] to confirm. If you select the same number as that of a file displayed in the list, the data is overwritten.



8 **Confirm the file number, and press [Enter].**
The settings are saved to the USB drive.

9 **Press [File ID] to set or change the File ID in the file.**
When software keyboard is displayed, enter a File ID, and press [Enter] to set the File ID.



To read settings saved to a USB drive
Perform the procedure in "To save the settings of the unit to a USB drive" (page 26) up to step **5**, and then press [Recall] in step **6**. The subsequent operation is the same.

To delete settings saved to a USB drive
Perform the procedure in "To save the settings of the unit to a USB drive" (page 26) up to step **5**, and then press [Delete] in step **6**. The subsequent operation is the same.

To initialize the settings
You can reset all of the RCP configuration menu settings to their default settings. Initialization is performed in engineer mode.

1 **Press [Security] on the RCP Config screen.**
The Security screen appears.

2 **Press [All Preset].**
The confirmation message appears.

3 **Press [OK].**
The RCP configuration menu settings are all reset to their default settings.

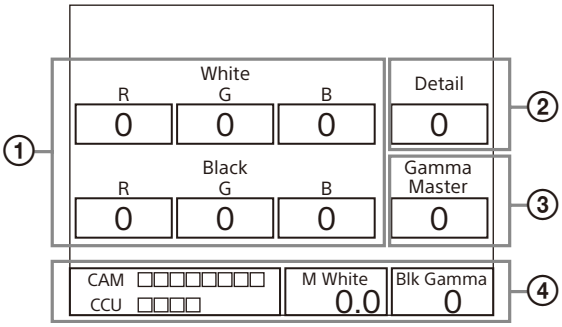
Menus

You can use various operation menus to adjust system devices and perform other operations with the control panel.

For details on menu operations, see "Menu Operations" (page 17).

Status Screen

The status screen is displayed when the menu and all custom paint buttons are not lit. The screen displays camera adjustment values and optical levels, and you can adjust frequently used items.



① Displays the white balance/black balance adjustment values. When the FLARE button is lit, the FLARE adjustment value is displayed.

② Displays the DETAIL adjustment value.

③ Displays the assignable button adjustment item and adjustment value.

④ If you make Customize settings, the value adjusted with the function assigned to the adjustment knobs and Optical level will be displayed. They are not displayed under the default settings.

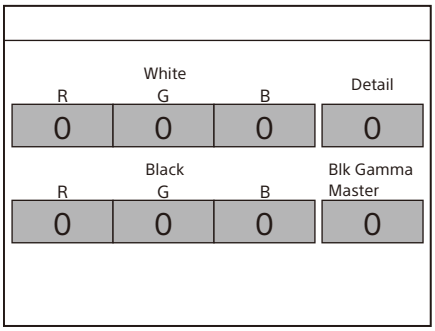
Setting the Status Screen Display

Configure the status screen when the menu and all CUSTOM buttons are not lit.
This setting is configured in engineer mode.

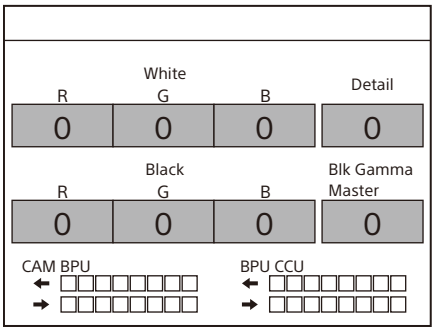
- A blank screen appears when set to OFF.
- You can select the following for the status screen display. The adjustment functions can be assigned to the knobs of the menu operation block according to the menu type.

Status screen menu type

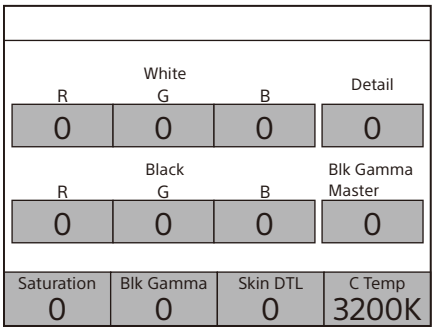
Control Value Only



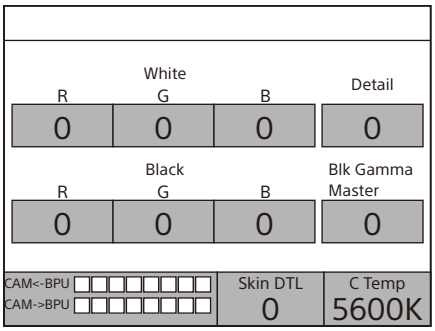
With Optical Level



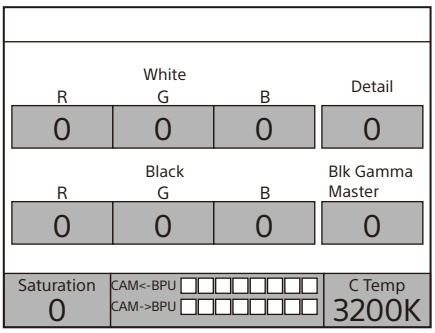
With 4 Control Knobs



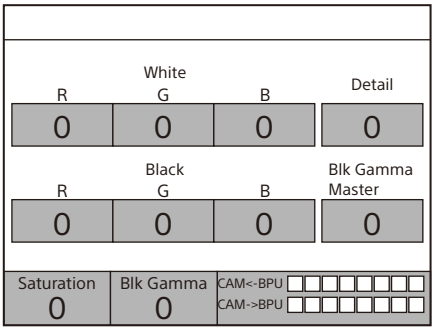
Opt Lvl and 2 Knobs (R)



Opt Lvl and 2 Knobs (L/R)

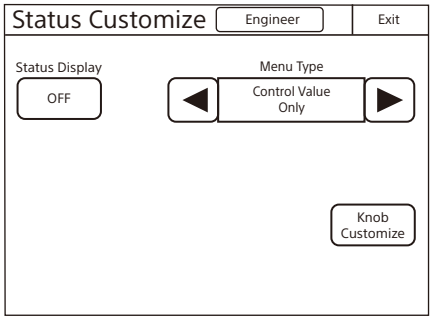


Opt Lvl and 2 Knobs (L)



1 **Press Customize on the RCP Config screen.**
The RCP Customize screen appears.

2 **Press Status Customize.**
The Status Customize screen appears.



This status display screen ON/OFF button, the status screen type select button, and the menu customize button of the adjustment knobs (according to display type) are displayed.

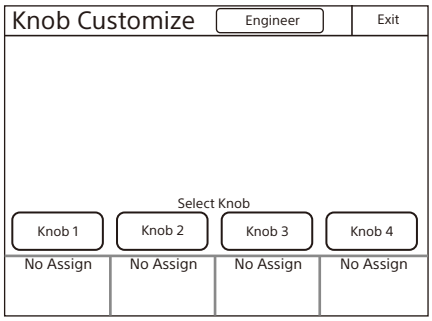
Status Display OFF: When pressed, the button is lit and the status display is disabled. The LCD display shows a blank screen.

Menu Type: Selects the status screen type with the right and left arrow buttons. For details about the display type, see "Status screen menu type".

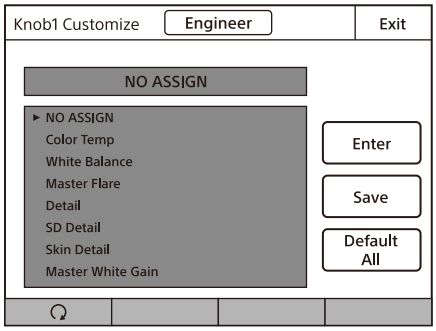
Knob Customize: Assigns the adjustment function to the adjustment knobs, according to the selected status screen type. Press this button to open the function assignment menu.

3 **Press the Knob Customize button when using the adjustment button.**
The Knob Customize screen appears.
The Select Knob buttons that set the usable adjustment knobs in the selected status screen type, and the functions currently assigned to the adjustment knobs are displayed.

Select Knob(Knob 1 - Knob 4): Assigns the adjustment knob to set, and opens the setting menu. (The displayed Select Knob buttons change according to the Menu Type selected in step **2**.)



4 **Press the Select Knob button to set the adjustment knob.**
The Knob Customize screen for setting the assigned adjustment knob appears.
The Knob Customize screen displays the function currently assigned to the selected adjustment knob. A list of assignable functions is also displayed.



5 **Turn the adjustment knob on the far left to select the function assigned to the adjustment knob.**
Turning the adjustment knob on the far left moves the cursor (►) in the list up or down. If you place a cursor over the function to assign, the function name is displayed in amber.

6 **Press Enter.**
The function assigned to the adjustment knob in the status screen changes to the function selected in the previous step. At this time, "*" appears in front of the function name.

7 **Press Save.**
The confirmation message screen appears.

8 **Press Save.**
The function assignment of the adjustment knob is saved to this unit. If you exit the menu without saving, the function assignments will not be reflected.

9 **When assigning a function to multiple adjustment knobs, repeat steps 4 to 8.**

10 **To reset function assignments of the adjustment knobs to their default settings, perform the following in the Knob Customize screen of each adjustment knob.**

① Press [Default Setting].
The confirmation message screen appears.

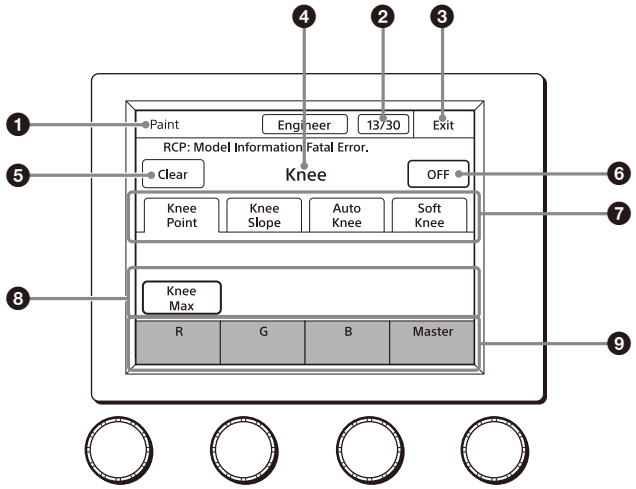
② Press [OK].
Function assignments of the adjustment knobs are reset to their default settings.

③ Press [Save].

Paint Menu

This menu is for image adjustments.
It is displayed when the control panel is in engineer mode or Full Paint of Page Permission is set to ON.
These are normally used by setting items for custom paint and custom buttons.

Screen display example (when “Knee” is selected in the Paint menu)



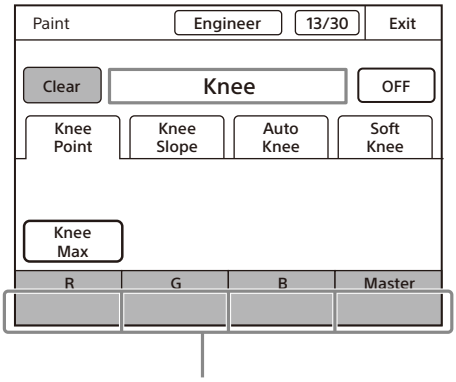
❶ **Category**
Displays the menu category.

❷ **Page number/total number of pages**
When this indication is displayed, you can turn the SELECT knob to change the page.

❸ **EXIT button**
Press this to return to the previous menu screen.

❹ **Menu**
Displays the name of the selected menu.

❺ **Clear button**
Press this to light the button in red and display a red frame around items that can be cleared.



You can press items with a red frame around them to clear their values one by one. If you press ❹, the values for all of the items with a red frame around them will be cleared. To cancel clearing items, press the [Clear] button again.

❻ **ON/OFF button**
Turns all the menu item functions ON/OFF.

❼ **Submenu**
Press a tab to switch to the setting items. Indicators are displayed for the individual setting items of each tab to indicate whether or not a setting is ON or OFF (an indicator lights when the setting item is ON).

❽ **Switch**
Turns submenu function ON/OFF.

❾ **Adjustment items**
Displays the adjustment item and adjustment value.

Menu items

Paint menu		Switch	Adjustment items	Description
Menu	Submenu			
White				Corrects the color reproduction of the camera to match the color temperature of the light source shining on the subject.
	RGB		R/G/B	Changes the sensitivity of each primary color (R, G, and B) and corrects the color temperature.
		ATW		This is the Auto Tracing White Balance. It continually corrects the white balance to match the screen during shooting. An error may be generated depending on the pattern.
		AWB		This is the Auto White Balance. Pressing this button while shooting a white subject automatically corrects the color temperature so that the white areas of the subject appear correctly.

Paint menu		Switch	Adjustment items	Description
Menu	Submenu			
	Color Temp		Balance	Corrects the balance so that it intersects the color temperature in the color space. (R and B are corrected in the same direction.)
			Color Temp	Corrects the color temperature in accordance with the spectrum of black body radiation of the color space. (R and B are corrected in the opposite direction.)
		ATW		This is the Auto Tracing White Balance. It continually corrects the white balance to match the screen during shooting. An error may be generated depending on the pattern.
		AWB		This is the Auto White Balance. Pressing this button while shooting a white subject automatically corrects the color temperature so that the white areas of the subject appear correctly.
Black				Adjusts the black level of images for when the lens is closed.
			R/G/B	Adjusts the black level of each of R, G, and B.
			Master	Links R, G, and B and adjusts them simultaneously.
		ABB		This is the Auto Black Balance. It automatically adjusts the R black and B black so that no color is added to black when the lens is closed. Depending on the model of camera, Black Set is also automatically adjusted at the same time. When this is executed, the lens is temporarily closed.
Flare				Corrects the phenomenon of black in the subject becoming bright and color being added due to the influence of the optical system. Adjusting this in the plus direction reduces the black level of the corresponding color in accordance with the brightness of the subject. Be careful not to overcorrect this.
		OFF		Disables the flare correction function.
			R/G/B	Adjusts the correction level of each of R, G, and B.
			Master	Links R, G, and B and adjusts them simultaneously.
Detail				Corrects the contour.
		OFF		Disables the detail function.
	1/3			This is the first page of detail adjustment.
			Level	Adjusts the contour correction level. Adjusting this in the plus direction makes pictures sharp, and adjusting this in the minus direction makes pictures soft. For cameras with an electronic software focus function, this enables softer pictures than when in the DTL OFF state.
			Limiter	Makes adjustments so that contour correction is not greater than a set level to prevent overcorrection by strong contour correction when shooting subjects with large luminance differences. Adjusting this in the plus direction also enables clipping of objects with small luminance differences.
			Crispening	Makes adjustments so that signals with small luminance differences are considered to be noise and correction is not applied to them in order to reduce the emphasizing of also the contours of noise by the contour correction function. Adjusting this in the plus direction results in luminance differences for which contour correction is not performed becoming large and improvements in S/N sensitivity, but resolution sensitivity deteriorates.
			Level Dep	Contour correction is not applied to the dark parts and S/N sensitivity is increased in order to reduce the emphasizing of also the contours of noise by the contour correction function. Adjusting this in the plus direction results in contour correction not being applied up to a brighter level.
		Level Dep Off		Disables the Level Dep function.
	2/3			This is the second page of detail adjustment.
			H/V Ratio	Adjusts the horizontal and vertical ratio of contour correction.
			Frequency	Adjusts the center frequency of contour correction.
			Mix Ratio	With a type of camera that creates a contour correction signal from gamma, adjusts the ratio for adding that correction signal before and after the gamma.
	3/3			This is the third page of detail adjustment.
			W Limiter	This is the limiter correction for detail signals added in the white direction.
			B Limiter	This is the limiter correction for detail signals added in the black direction.
			Knee Apt	Adjusts the resolution sensitivity of high-luminance parts for which knee is applied.
		Knee Apt		Enables the Knee Apt function.

Paint menu		Switch	Adjustment items	Description
Menu	Submenu			
HD Detail				Adjusts the detail in the HD output.
		ON		Enables the HD detail function. Displayed only when supported by the connected device.
	1/3			This is the first page of detail adjustment.
			Level	Adjusts the contour correction level. Adjusting this in the plus direction makes pictures sharp, and adjusting this in the minus direction makes pictures soft. For cameras with an electronic software focus function, this enables softer pictures than when in the DTL OFF state.
			Limiter	Makes adjustments so that contour correction is not greater than a set level to prevent overcorrection by strong contour correction when shooting subjects with large luminance differences. Adjusting this in the plus direction also enables clipping of objects with small luminance differences.
			Crispening	Makes adjustments so that signals with small luminance differences are considered to be noise and correction is not applied to them in order to reduce the emphasizing of also the contours of noise by the contour correction function. Adjusting this in the plus direction results in luminance differences for which contour correction is not performed becoming large and improvements in S/N sensitivity, but resolution sensitivity deteriorates.
			Level Dep	Contour correction is not applied to the dark parts and S/N sensitivity is increased in order to reduce the emphasizing of also the contours of noise by the contour correction function. Adjusting this in the plus direction results in contour correction not being applied up to a brighter level.
	2/3			This is the second page of detail adjustment.
			H/V Ratio	Adjusts the horizontal and vertical ratio of contour correction.
			Frequency	Adjusts the center frequency of contour correction.
			Mix Ratio	With a type of camera that creates a contour correction signal from gamma, adjusts the ratio for adding that correction signal before and after the gamma.
	3/3			This is the third page of detail adjustment.
			W Limiter	This is the limiter correction for detail signals added in the white direction.
			B Limiter	This is the limiter correction for detail signals added in the black direction.
			Knee Apt	Adjusts the resolution sensitivity of high-luminance parts for which knee is applied.
4K Detail				Adjusts the detail in the 4K output.
		ON		Enables the 4K detail function. Displayed only when supported by the connected device.
	1/3			This is the first page of detail adjustment.
			Level	Adjusts the contour correction level. Adjusting this in the plus direction makes pictures sharp, and adjusting this in the minus direction makes pictures soft. For cameras with an electronic software focus function, this enables softer pictures than when in the DTL OFF state.
			Limiter	Makes adjustments so that contour correction is not greater than a set level to prevent overcorrection by strong contour correction when shooting subjects with large luminance differences. Adjusting this in the plus direction also enables clipping of objects with small luminance differences.
			Crispening	Makes adjustments so that signals with small luminance differences are considered to be noise and correction is not applied to them in order to reduce the emphasizing of also the contours of noise by the contour correction function. Adjusting this in the plus direction results in luminance differences for which contour correction is not performed becoming large and improvements in S/N sensitivity, but resolution sensitivity deteriorates.
			Level Dep	Contour correction is not applied to the dark parts and S/N sensitivity is increased in order to reduce the emphasizing of also the contours of noise by the contour correction function. Adjusting this in the plus direction results in contour correction not being applied up to a brighter level.
	2/3			This is the second page of detail adjustment.
			H/V Ratio	Adjusts the horizontal and vertical ratio of contour correction.
			Frequency	Adjusts the center frequency of contour correction.
			Mix Ratio	With a type of camera that creates a contour correction signal from gamma, adjusts the ratio for adding that correction signal before and after the gamma.

Paint menu		Switch	Adjustment items	Description
Menu	Submenu			
	3/3			This is the third page of detail adjustment.
			W Limiter	This is the limiter correction for detail signals added in the white direction.
			B Limiter	This is the limiter correction for detail signals added in the black direction.
			Knee Apt	Adjusts the resolution sensitivity of high-luminance parts for which knee is applied.
8K Detail				Adjusts the detail in the 8K output.
		ON		Enables the 8K detail function. Displayed only when supported by the connected device.
	1/3			This is the first page of detail adjustment.
			Level	Adjusts the contour correction level. Adjusting this in the plus direction makes pictures sharp, and adjusting this in the minus direction makes pictures soft. For cameras with an electronic software focus function, this enables softer pictures than when in the DTL OFF state.
			Limiter	Makes adjustments so that contour correction is not greater than a set level to prevent overcorrection by strong contour correction when shooting subjects with large luminance differences. Adjusting this in the plus direction also enables clipping of objects with small luminance differences.
			Crispening	Makes adjustments so that signals with small luminance differences are considered to be noise and correction is not applied to them in order to reduce the emphasizing of also the contours of noise by the contour correction function. Adjusting this in the plus direction results in luminance differences for which contour correction is not performed becoming large and improvements in S/N sensitivity, but resolution sensitivity deteriorates.
			Level Dep	Contour correction is not applied to the dark parts and S/N sensitivity is increased in order to reduce the emphasizing of also the contours of noise by the contour correction function. Adjusting this in the plus direction results in contour correction not being applied up to a brighter level.
	2/3			This is the second page of detail adjustment.
			H/V Ratio	Adjusts the horizontal and vertical ratio of contour correction.
			Frequency	Adjusts the center frequency of contour correction.
			Mix Ratio	With a type of camera that creates a contour correction signal from gamma, adjusts the ratio for adding that correction signal before and after the gamma.
	3/3			This is the third page of detail adjustment.
			W Limiter	This is the limiter correction for detail signals added in the white direction.
			B Limiter	This is the limiter correction for detail signals added in the black direction.
			Knee Apt	Adjusts the resolution sensitivity of high-luminance parts for which knee is applied.
Skin DTL				Allows adjustment of the contour correction level of the set color area. For example, allows you to make the faces of people appear shiny.
		ON		Enables the Skin DTL function. Allows up to three channels to be adjusted separately. This switch enables the Skin DTL function to be turned ON/OFF simultaneously in accordance with the setting of each channel.
	Skin DTL 1			Sets the first channel of Skin DTL. When this channel is enabled, the ON mark appears on the very left of the tab.
		Skin DTL 1		Enables Skin DTL of this channel. Skin DTL cannot be disabled for models with three channels.
			Level	This is the contour correction value within the color area that is set with Phase or Width. Adjusting this in the plus direction makes pictures sharp, and adjusting this in the minus direction makes pictures soft. For cameras with an electronic software focus function, this enables softer pictures than when in the DTL OFF state.
			Phase	Adjusts the center of the hues of the effective color area of Skin DTL. The value is almost equivalent to the phase on a vector scope.
			Width	Sets a range centered on the phase. The value indicates an angle.
			Saturation	Disables Skin DTL for places with a small degree of color saturation. Adjusting this in the minus direction also allows Skin DTL to be enabled for places with less saturation.
		Auto Hue 1		This is a function for automatically searching for a hue. Capture the subject you want to measure in the center of the screen and execute the function. The phase of this channel is adjusted automatically.

Paint menu		Switch	Adjustment items	Description
Menu	Submenu			
		Gate 1		Adds a gate signal to the range of this channel for which Skin DTL is effective. For the output connector for which the signal can be added, refer to the manual of the corresponding device.
		Natural Skin DTL		Enables the Natural Skin DTL function. This can be common to control the three channels.
		Zoom Link		Enables the function that changes the correction amount for Skin DTL in response to the zoom value of the camera.
	Skin DTL 2			Sets the second channel of Skin DTL.
		Skin DTL 2		Enables Skin DTL of this channel. When this channel is enabled, the ON mark appears on the very left of the tab.
			Level	This is the contour correction value within the color area that is set with Phase or Width. Adjusting this in the plus direction makes pictures sharp, and adjusting this in the minus direction makes pictures soft. For cameras with an electronic software focus function, this enables softer pictures than when in the DTL OFF state.
			Phase	Adjusts the center of the hues of the effective color area of Skin DTL. The value is almost equivalent to the phase on a vector scope.
			Width	Sets a range centered on the phase. The value indicates an angle.
			Saturation	Disables Skin DTL for places with a small degree of color saturation. Adjusting this in the minus direction also allows Skin DTL to be enabled for places with less saturation.
		Auto Hue 2		This is a function for automatically searching for a hue. Capture the subject you want to measure in the center of the screen and execute the function. The phase of this channel is adjusted automatically.
		Gate 2		Adds a gate signal to the range of this channel for which Skin DTL is effective. For the output connector for which the signal can be added, refer to the manual of the corresponding device.
		Natural Skin DTL		Enables the Natural Skin DTL function. This can be common to control the three channels.
		Zoom Link		Enables the function that changes the correction amount for Skin DTL in response to the zoom value of the camera.
	Skin DTL 3			Sets the third channel of Skin DTL.
		Skin DTL 3		Enables Skin DTL of this channel. When this channel is enabled, the ON mark appears on the very left of the tab.
			Level	This is the contour correction value within the color area that is set with Phase or Width. Adjusting this in the plus direction makes pictures sharp, and adjusting this in the minus direction makes pictures soft. For cameras with an electronic software focus function, this enables softer pictures than when in the DTL OFF state.
			Phase	Adjusts the center of the hues of the effective color area of Skin DTL. The value is almost equivalent to the phase on a vector scope.
			Width	Sets a range centered on the phase. The value indicates an angle.
			Saturation	Disables Skin DTL for places with a small degree of color saturation. Adjusting this in the minus direction also allows Skin DTL to be enabled for places with less saturation.
		Auto Hue 3		This is a function for automatically searching for a hue. Capture the subject you want to measure in the center of the screen and execute the function. The phase of this channel is adjusted automatically.
		Gate 3		Adds a gate signal to the range of this channel for which Skin DTL is effective. For the output connector for which the signal can be added, refer to the manual of the corresponding device.
		Natural Skin DTL		Enables the Natural Skin DTL function. This can be common to control the three channels.
		Zoom Link		Enables the function that changes the correction amount for Skin DTL in response to the zoom value of the camera.
	Y Limit			Disables Skin DTL for low-luminance. Sets the maximum for the Y level to disable.
			Y Limit1	Sets the maximum for the Y level in the first channel of Skin DTL.
			Y Limit2	Sets the maximum for the Y level in the second channel of Skin DTL.
			Y Limit3	Sets the maximum for the Y level in the third channel of Skin DTL.

Paint menu		Switch	Adjustment items	Description
Menu	**Submenu**			
Matrix				Corrects the color reproduction without changing the white balance.
		OFF		Enables the matrix function. This switch enables the function to be turned ON/OFF simultaneously in accordance with individual matrix settings.
	User 1/2			Sets the matrix correction factor individually. This is the first page of the settings. When User Matrix is enabled, the ON mark appears on the very left of the tab.
		User Matrix		Enables the User Matrix function.
			R-G	Corrects the signal of the R channel in accordance with the difference between the signals of the R channel and G channel.
			G-B	Corrects the signal of the G channel in accordance with the difference between the signals of the G channel and B channel.
			B-R	Corrects the signal of the B channel in accordance with the difference between the signals of the B channel and R channel.
		Adaptive Matrix		Enables the Adaptive Matrix function. This can be common to control all the matrix functions.
	User 2/2			Sets the matrix correction factor individually. This is the second page of the settings. When User Matrix is enabled, the ON mark appears on the very left of the 1/2 tab.
		User Matrix		Enables the User Matrix function. This is the same switch as 1/2.
			R-B	Corrects the signal of the R channel in accordance with the difference between the signals of the R channel and B channel.
			G-R	Corrects the signal of the G channel in accordance with the difference between the signals of the G channel and R channel.
			B-G	Corrects the signal of the B channel in accordance with the difference between the signals of the B channel and G channel.
		Adaptive Matrix		Enables the Adaptive Matrix function. This can be common to control all the matrix functions.
	Multi			Changes color reproduction for each hue divided into 16. When Multi Matrix is enabled, the ON mark appears on the very left of the tab.
		Multi Matrix		Enables the Multi Matrix function.
			Phase	Selects the hue to adjust.
			Hue	Changes the hue of colors within the hue range selected with Phase.
			Saturation	Changes the saturation of colors within the hue range selected with Phase.
		Adaptive Matrix		Enables the Adaptive Matrix function. This can be common to control all the matrix functions.
		Gate		Adds a gate signal to an image within the hue range selected with Phase. For the output connector for which the signal can be added, refer to the manual of the corresponding device.
		All Clear		Returns the factors of all ranges of Multi Matrix to their initial states.
	Preset			Selects the matrix provided for the camera in advance. When Preset Matrix is enabled, the ON mark appears on the very left of the tab.
		Preset Matrix		Enables Preset Matrix.
			Preset Matrix	Selects the matrix provided for the camera in advance.
		Adaptive Matrix		Enables the Adaptive Matrix function. This can be common to control all the matrix functions.
			Level	Adjusts the effective condition of the Adaptive Matrix function.
Gain				Sets the sensitivity of the camera. The sensitivity of the camera is determined by the sum of the master gain, master white gain, and F drop gain.
			Total Gain	Sum of the master gain, master white gain, and F drop gain.
			F Drop Gain	Value of gain that compensates for lens F drop (display only).
			Step Gain	Changes the sensitivity of the camera in steps.
			M White	Changes the sensitivity of the camera continuously.

Paint menu		Switch	Adjustment items	Description
Menu	**Submenu**			
Gamma				Corrects the photoelectric conversion characteristic of the image pickup device to the luminance characteristic of the display.
		OFF		Disables the gamma correction function.
	Gamma		R/G/B	Adjusts the correction level of each of R, G, and B.
			Master	Links R, G, and B and adjusts them simultaneously.
	Step		Step Gamma	Changes correction in steps.
Black Gamma				Adjusts gamma correction of the screen dark sections.
		ON		Enables the black gamma function.
		Range		Selects the range for which black gamma is effective. Select from Low Range, L.Mid Range, H.Mid Range, and High Range.
			R/G/B	Adjusts the correction level of each of R, G, and B.
			Master	Links R, G, and B and adjusts them simultaneously.
Knee				Compresses the bright parts of the screen to enable expressions within the signal standard. This enables you to obtain pictures that have a high dynamic range.
		OFF		Disables knee correction. Auto Knee is also disabled.
	Knee Point			Compresses the bright parts and adjusts the start level.
			R/G/B	Adjusts the level of each of R, G, and B.
			Master	Links R, G, and B and adjusts them simultaneously.
		Knee Max		Applies clipping at the point that knee correction is applied to make adjusting the knee point easy. This can only be set when in engineer mode or when Knee Max Enable is enabled.
	Knee Slope			Adjusts the ratio for compressing images.
			R/G/B	Adjusts the compression level of each of R, G, and B.
			Master	Links R, G, and B and adjusts them simultaneously.
	Auto Knee			Automatically adjusts the knee factor in accordance with the captured image signal.
		ON		Enables the auto knee function. The settings configured for Knee Point/ Slope are ignored. When auto knee is enabled, the ON mark appears on the very left of the tab.
			Point Limit	Sets the lower limit for the knee point automatically adjusted by auto knee. This results in low level images not being influenced by auto knee.
			Auto Slope	Sets the knee slope of auto knee.
	Soft Knee			Changes the polygonal line in the vicinity of the knee point to a curve.
		Soft Knee		Turns the soft knee function ON/OFF.
			Radius	Adjusts the curvature of the curve in the vicinity of the knee point.
Shutter				Controls the exposure time of the image pickup device.
	Shutter			Selects and sets the shutter mode.
		Slow Shutter	Slow Shutter	Shoots with the frequency from the frame frequency of the capture image format (unit: number of frames).
		Shutter	Shutter	Controls the exposure time in steps. Display is 1/x seconds.
		Angle		Displays the shutter speed as an angle value.
		ECS	ECS	This is the Extended Clear Scan. It finely controls the exposure time (unit: Hz).
	FPS			This function is for overcrank and undercrank shooting.
		Shutter ON		Enables the shutter function.
		Angle		Displays the shutter speed as an angle value.
		Select FPS		Performs overcrank and undercrank shooting.
			Step/ continuous	Sets the shutter speed.
			Comp	Corrects the change in the image level for when the FPS is changed. **OFF:** Disables the correction function. **Angle:** Automatically controls the shutter in conjunction with the FPS and maintains the output level. **Gain:** Automatically controls the electronic gain in conjunction with the FPS and maintains the output level.
			FPS	Sets the number of frames to capture.

Paint menu		Switch	Adjustment items	Description
Menu	Submenu			
Saturation				Adjusts the saturation of images. The luminance is not changed.
		ON		Enables the saturation function.
			Saturation	Adjusts the saturation.
V Mod Saw				Corrects color shading in the vertical direction caused by the lens or optical system.
		OFF		Disables the V Modulation Saw correction function.
			R/G/B	Adjusts the correction level of each of R, G, and B.
			Master	Links R, G, and B and adjusts them simultaneously. R, B, and G move in the opposite direction.
White Clip				Sets the maximum value of the image signal. Limits signals over a certain value by applying a clip to them.
		OFF		Disables the white clip function.
			R/G/B	Sets the maximum value of each of R, G, and B.
			Master	Links R, G, and B and sets them simultaneously.
Auto Iris				Controls the iris of the lens in accordance with the brightness of the subject. Additional adjustments are possible with the iris adjustment knob even when using the auto focus.
		ON		Enables the auto iris function.
			Pattern	Selects the weighted pattern of auto iris in accordance with the screen position.
Mono Color				Applies a special affect to make the screen mono color.
		ON		Enables the mono color function.
			Saturation	Sets the saturation.
			Hue	Sets the hue.
Noise Suppression				Controls the white noise on the screen. Over control results in deterioration of fine resolution sensitivity.
		ON		Enables the Noise Suppression function.
			Noise Sup	Adjusts the control level.
Flicker Reduction				This is a function for Super Motion. It allows you to reduce flickering on the screen caused by the relationship between temporal fluctuations of the light source and the frame frequency of the camera.
		ON		Enables the Flicker Reduction function.
	Adjusting			Adjusts the flicker reduction function.
		ACM		Selects the ACM method flicker reduction function.
		Standard		Selects the standard method flicker reduction function.
			Power Line Frequency	Sets the power line frequency of the lighting.
			Gain	This is the correction level.
			Offset	This is image level at which correction starts to be applied.
	Type			Sets Standard/ACM properties.
		ACM		Selects the ACM method flicker reduction function.
		Standard		Selects the standard method flicker reduction function.
			ACM	In ACM mode, selects the combination of frames to add.
			Light	In Standard mode, selects the type of lighting.
Gamma/knee				This page contains the gamma, black gamma, and knee.
		Gamma Off		Disables gamma correction.
			Gamma	This value corresponds to the master of gamma adjustment.
		Black Gamma On		Enables the black gamma function.
			Blk Gamma	This value corresponds to the master of black gamma adjustment.
		Knee Off		Disables knee correction. Auto Knee is also disabled.
			Knee Point	This value corresponds to the master of knee point adjustment.
			Knee Slope	This value corresponds to the master of knee slope adjustment.
		Auto Knee On		Enables the auto knee function.

Paint menu		Switch	Adjustment items	Description
Menu	Submenu			
Low Key Saturation				Allows adjustment of the saturation of dark sections.
			ON	Enables the low key saturation function.
			Range	Sets the range for which low key saturation is performed.
			Low K Sat	Sets the saturation level.
Knee Saturation				Compensates for the color fading of the parts for which knee is applied and makes them appear colorful.
		ON		Enables the knee saturation function.
			Knee Sat	Sets the correction level.
Gamma Table				Allows you to select the curve for gamma correction.
	Standard	Standard		Uses a standard gamma curve.
			Standard	Allows you to select a type of standard gamma curve.
		Gamma OFF		Disables gamma correction.
	Hyper	Hyper		Uses gamma to completely reproduce the dynamic range of the camera including the high-luminance parts.
			Hyper	Allows you to select a type of hyper gamma curve.
		Gamma OFF		Disables gamma correction.
	Special	Special		Allows you to select the gamma that emulates film and other gamma.
			Special	Allows you to select a type of special gamma curve.
		Gamma OFF		Disables gamma correction.
	User	User		Allows you to select gamma created with CVP File Editor and other gamma.
			User	Allows you to select a type of user gamma curve.
		Gamma OFF		Disables gamma correction.
HDR Operation				Makes adjustments related to HDR (High Dynamic Range).
	HDR Setup			
			Black Offset	In Live HDR, adjusts the black offset of the HDR images only.
			HDR Contrast	HDR contrast value derived from SDR Gain (display only).
			SDR Gain	In Live HDR, adjusts (reduces) the gain of the SDR images only.
	HDR Knee			
		HDR Knee		Enables/disables the HDR knee function.
			Knee Point	Adjusts the HDR knee point.
			Knee Slope	Adjusts the HDR knee slope.
HDR White Clip				
		ON		Turns the HDR White Clip function ON/OFF.
			Master	Adjusts the HDR White Clip adjustment.
HD Detail Reduction				Function for reducing detail components in the HD input.
		ON		Enables the HD detail reduction function.
			Level	Adjusts the level of detail components in the HD input.
			Frequency	Adjusts the frequency of detail components in the HD input.
HDR Conversion				Adjustment items for converting from SDR to HDR.
	Highlight Cre.			Highlight creation (restores areas with knee applied) function.
		Highlight Cre.		Turns the highlight creation function ON/OFF.
			Point	Adjusts the knee point of SDR images.
			Slope	Adjusts the knee slope of SDR images.
	Black			Adjusts the black level.
		Input Lvl Adjust		Turns the black level adjustment function ON/OFF.
			Input	Adjusts the input black level.
			SDR Output	Adjusts the black level of the SDR output.
			HDR Output	Adjusts the black level of the HDR output.

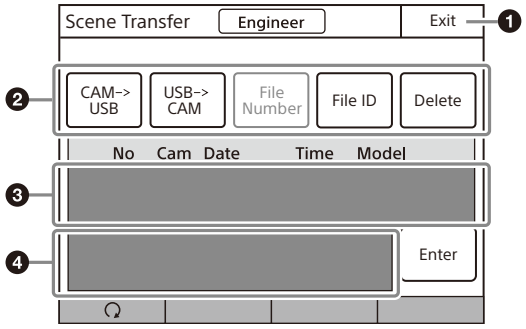
Paint menu		Switch	Adjustment items	Description
Menu	Submenu			
	White/Gain			
		White Balance		Turns the white balance adjustment function for SDR input ON/OFF.
		Gain		Turns the gain correction function for SDR input ON/OFF.
			R/G/B	Adjusts the white balance (R, G, B).
			M.White	Adjusts the gain correction.
Live Tone Control 1				Configures setting for live tone control.
		ON		Turns live tone control ON/OFF.
	Base Tone			
		Base Tone		Turns the base tone adjustment ON/OFF.
		Low Tone		Turns the low brightness tone adjustment ON/OFF.
		Mid Tone		Turns the mid brightness tone adjustment ON/OFF.
			Curve	Adjusts the curvature of the base tone adjustment curve. The higher the value the greater the curvature.
			Master	Sets the strength of the base tone adjustment. Applied to R, G, and B.
	Low Tone			
		Base Tone		Turns the base tone adjustment ON/OFF.
		Low Tone		Turns the low brightness tone adjustment ON/OFF.
		Mid Tone		Turns the mid brightness tone adjustment ON/OFF.
			Width	Sets the width of the region for low brightness tone adjustment. The higher the value the wider the brightness range.
			Master	Sets the strength of the low brightness tone adjustment. Applied to R, G, and B.
	Mid Tone			
		Base Tone		Turns the base tone adjustment ON/OFF.
		Low Tone		Turns the low brightness tone adjustment ON/OFF.
		Mid Tone		Turns the mid brightness tone adjustment ON/OFF.
			Width	Sets the width of the region for mid brightness tone adjustment. The higher the value the wider the brightness range.
			Center	Sets the brightness at the center of the region for mid brightness tone adjustment. The higher the value the brighter the range.
			Master	Sets the strength of the mid brightness tone adjustment. Applied to R, G, and B.
Live Tone Control 2				Configures setting for live tone control (R, G, and B can be set individually).
		ON		Turns live tone control ON/OFF.
	Base Tone			
		Base Tone		Turns the base tone adjustment ON/OFF.
		Low Tone		Turns the low brightness tone adjustment ON/OFF.
		Mid Tone		Turns the mid brightness tone adjustment ON/OFF.
			R	Sets the strength of the base tone adjustment. Applied to R only.
			G	Sets the strength of the base tone adjustment. Applied to G only.
			B	Sets the strength of the base tone adjustment. Applied to B only.
			Master	Sets the strength of the base tone adjustment. Applied to R, G, and B.
	Low Tone			
		Base Tone		Turns the base tone adjustment ON/OFF.
		Low Tone		Turns the low brightness tone adjustment ON/OFF.
		Mid Tone		Turns the mid brightness tone adjustment ON/OFF.
			R	Sets the strength of the low brightness tone adjustment. Applied to R only.
			G	Sets the strength of the low brightness tone adjustment. Applied to G only.
			B	Sets the strength of the low brightness tone adjustment. Applied to B only.
			Master	Sets the strength of the low brightness tone adjustment. Applied to R, G, and B.

Paint menu		Switch	Adjustment items	Description
Menu	Submenu			
	Mid Tone			
		Base Tone		Turns the base tone adjustment ON/OFF.
		Low Tone		Turns the low brightness tone adjustment ON/OFF.
		Mid Tone		Turns the mid brightness tone adjustment ON/OFF.
			R	Sets the strength of the mid brightness tone adjustment. Applied to R only.
			G	Sets the strength of the mid brightness tone adjustment. Applied to G only.
			B	Sets the strength of the mid brightness tone adjustment. Applied to B only.
			Master	Sets the strength of the mid brightness tone adjustment. Applied to R, G, and B.

File Menu

This menu is for importing/exporting camera settings to and from a USB drive.
This menu is displayed only in engineer mode.

Screen display example (when "Scene" is selected in the File menu, and then "Scene Transfer" is selected)



❶ **EXIT button**
Press this to return to the previous menu screen.

❷ **Control/adjustment items**
Press a button to select the transfer destination and source. Press the File ID button to enter a File ID, press the Delete button to delete a file.

❸ **Scene file list**
This displays a list of scene files that can be transferred. When there are multiple files, turn the SELECT knob to select the scene file that will be transferred.

❹ **Message area**
This displays files and the operation information.

Menu items

File menu items can only be set when in engineer mode.

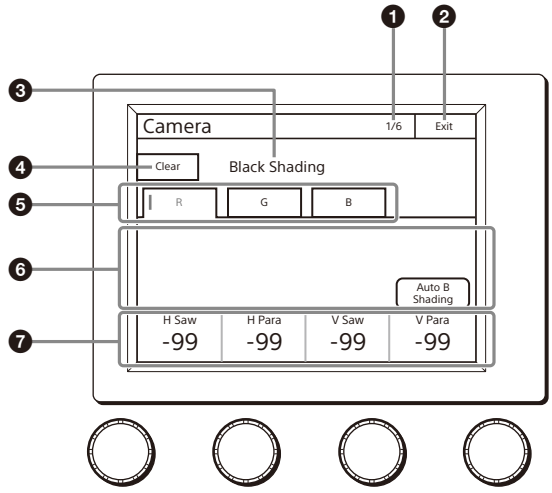
File menu		Control/adjustment items	Description
Menu	Submenu		
Reference	Ref Store		Registers a reference file.
	Ref Transfer	CAM → USB	Transfers a reference file from a camera to a USB drive.
		USB → CAM	Transfers a reference file from a USB drive to a camera.
		File ID	Sets a File ID in a reference file on a USB drive.
	Adjusting	(Paint menu items)	Allows you to adjust the save items.
Scene	Store/Recall		Registers or reads a scene file.
	Scene Transfer	CAM → USB	Transfers a scene file from a camera to a USB drive.
		USB → CAM	Transfers a scene file from a USB drive to a camera.
		File ID	Sets a File ID in a scene file on a USB drive.
		Delete	Deletes a scene file from a USB drive.
	Adjusting	(Paint menu items)	Allows you to adjust the save items.
Lens	Lens Store		Registers a lens file.
	Lens Select	Change Name	Changes the lens name.
		Select File	Selects a lens file.
	Auto White		Adjusts the auto white balance.
	Adjusting	(Paint menu items)	Allows you to adjust the save items.

File menu		Control/adjustment items	Description
Menu	Submenu		
OHB	OHB Store		Registers an OHB file.
	Auto W Shading		Adjusts the auto white shading.
	Auto B Shading		Adjusts the auto black shading.
	Auto White		Adjusts the auto white.
	Auto Black		Adjusts the auto black.
	Adjusting	Black Shading	Adjusts the black shading.
		White Shading	Adjusts the white shading.
		Black Set	Adjusts the black set.
		OHB Matrix	Adjusts the OHB matrix.
Custom Matrix	Store		Registers a custom preset matrix file.
	Transfer	CAM → USB	Transfers a custom preset matrix file from a camera to a USB drive.
		USB → CAM	Transfers a custom preset matrix file from a USB drive to a camera.
		File ID	Sets a File ID in a custom preset matrix file on a USB drive.
		Delete	Deletes a custom preset matrix file from a USB drive.
	Adjusting	(Paint menu items)	Allows you to adjust the save items.
User Gamma	User Gam Transfer	USB → CAM	Transfers a user gamma file from a USB drive to a camera.
		Delete	Deletes a user gamma file from a USB drive.
	Adjusting	(Paint menu items)	Allows you to adjust the save items.
Converter All-Settings	Store/Recall		Stores or recalls a converter all-settings file.
	All-Settings Transfer	CAM → USB	Transfers a converter all-settings file from the camera to a USB drive.
		USB → CAM	Transfers a converter all-settings file from a USB drive to a camera.
		File ID	Sets the file ID of a converter all-settings file on a USB drive.
		Delete	Deletes a converter all-settings file from a USB drive.

Maintenance Menu

This menu is for adjustments and settings before using a camera or CCU.
This menu is displayed only in engineer mode.

Screen display example (when “Camera” is selected in the Maintenance menu, and then “Black Shading” is selected)



❶ **Page number/total number of pages**
When this indication is displayed, you can turn the SELECT knob to change the page.

❷ **EXIT button**
Press this to return to the previous menu screen.

❸ **Menu**
This displays the current setting item name. After the Clear button is pressed to light it, you can clear all of the setting values.

❹ **Clear button**
Press this to clear the setting items.

❺ **Submenu**
Press a tab to switch to the setting items.

❻ **Switch**
Turns submenu function ON/OFF.

❼ **Adjustment items**
Displays the adjustment item and adjustment value.

Menu items

Maintenance menu items can only be set when in engineer mode.

Maintenance menu		Submenu	Switch	Adjustment items	Description
Menu	**Secondary menu**				
Camera					These are maintenance items related to cameras.
	Black Shading				Corrects black shading in images.
		R	Auto B Shading		This is the Auto Black Shading. It automatically adjusts each of the RGB, HV, and SAW/PARA parameters. Auto adjustment may be additionally performed with 2D Black Shading depending on the camera. If 2D Black Shading is not saved to the OHB file, it will not be saved when the power of the camera is turned off.
				H SAW	Corrects spots in the left and right directions of the R channel in a linear fashion.
				H PARA	Corrects spots in the horizontal direction in relation to the center part of the R channel in a parabolic fashion.
				V SAW	Corrects spots in the up and down directions of the R channel in a linear fashion.
				V PARA	Corrects spots in the vertical direction in relation to the center part of the R channel in a parabolic fashion.
		G	Auto B Shading		This is the Auto Black Shading. It automatically adjusts each of the RGB, HV, and SAW/PARA parameters. Auto adjustment may be additionally performed with 2D Black Shading depending on the camera. If 2D Black Shading is not saved to the OHB file, it will not be saved when the power of the camera is turned off.
				H SAW	Corrects spots in the left and right directions of the G channel in a linear fashion.
				H PARA	Corrects spots in the horizontal direction in relation to the center part of the G channel in a parabolic fashion.
				V SAW	Corrects spots in the up and down directions of the G channel in a linear fashion.
				V PARA	Corrects spots in the vertical direction in relation to the center part of the G channel in a parabolic fashion.
		B	Auto B Shading		This is the Auto Black Shading. It automatically adjusts each of the RGB, HV, and SAW/PARA parameters. Auto adjustment may be additionally performed with 2D Black Shading depending on the camera. If 2D Black Shading is not saved to the OHB file, it will not be saved when the power of the camera is turned off.
				H SAW	Corrects spots in the left and right directions of the B channel in a linear fashion.
				H PARA	Corrects spots in the horizontal direction in relation to the center part of the B channel in a parabolic fashion.
				V SAW	Corrects spots in the up and down directions of the B channel in a linear fashion.
				V PARA	Corrects spots in the vertical direction in relation to the center part of the B channel in a parabolic fashion.
	White Shading				Corrects sensitivity shading in images.
		R	Auto W Shading		This is the Auto White Shading. It automatically adjusts each of the RGB, HV, and SAW/PARA parameters. Auto adjustment may be additionally performed with 3D White Shading depending on the camera. If 3D White Shading is not saved to the OHB file, it will not be saved when the power of the camera is turned off.
				H SAW	Corrects spots in the left and right directions of the R channel in a linear fashion.
				H PARA	Corrects spots in the horizontal direction in relation to the center part of the R channel in a parabolic fashion.
				V SAW	Corrects spots in the up and down directions of the R channel in a linear fashion.
				V PARA	Corrects spots in the vertical direction in relation to the center part of the R channel in a parabolic fashion.

Maintenance menu		Submenu	Switch	Adjustment items	Description
Menu	Secondary menu				
		G	Auto W Shading		This is the Auto White Shading. It automatically adjusts each of the RGB, HV, and SAW/PARA parameters. Auto adjustment may be additionally performed with 3D White Shading depending on the camera. If 3D White Shading is not saved to the OHB file, it will not be saved when the power of the camera is turned off.
				H SAW	Corrects spots in the left and right directions of the G channel in a linear fashion.
				H PARA	Corrects spots in the horizontal direction in relation to the center part of the G channel in a parabolic fashion.
				V SAW	Corrects spots in the up and down directions of the G channel in a linear fashion.
				V PARA	Corrects spots in the vertical direction in relation to the center part of the G channel in a parabolic fashion.
		B	Auto W Shading		This is the Auto White Shading. It automatically adjusts each of the RGB, HV, and SAW/PARA parameters. Auto adjustment may be additionally performed with 3D White Shading depending on the camera. If 3D White Shading is not saved to the OHB file, it will not be saved when the power of the camera is turned off.
				H SAW	Corrects spots in the left and right directions of the B channel in a linear fashion.
				H PARA	Corrects spots in the horizontal direction in relation to the center part of the B channel in a parabolic fashion.
				V SAW	Corrects spots in the up and down directions of the B channel in a linear fashion.
				V PARA	Corrects spots in the vertical direction in relation to the center part of the B channel in a parabolic fashion.
		White		R/G/B	Changes primary color (R, G, and B) sensitivity and corrects color temperature.
			AWB		This is the Auto White Balance. Pressing this button while shooting a white subject automatically corrects the color temperature so that the white areas of the subject appear correctly.
	Black Set				Makes adjustments so that the black level of each color does not change when the master gain is changed.
		Black Set		R/G/B	Adjusts the correction level of each of R, G, and B.
			ABB		This is the Auto Black Balance. It automatically adjusts the R black and B black so that no color is added to black when the lens is closed. Depending on the model of camera, Black Set is also automatically adjusted at the same time. When this is executed, the lens is automatically closed.
		Black		R/G/B	Adjusts the black level of each of R, G, and B.
				Master	Links R, G, and B and adjusts them simultaneously.
			ABB		This is the Auto Black Balance. It automatically adjusts the R black and B black so that no color is added to black when the lens is closed. Depending on the model of camera, Black Set is also automatically adjusted at the same time. When this is executed, the lens is automatically closed.
	OHB Matrix				Absorbs variations in color reproduction by the optical head block (optical unit).
			ON		Enables the OHB matrix function. This switch enables the function to be turned ON/OFF simultaneously in accordance with individual matrix settings.
		User 1/2			Sets the OHB User Matrix correction factor individually. This is the first page of the settings.
				R-G	Corrects the signal of the R channel in accordance with the difference between the signals of the R channel and G channel.
				G-B	Corrects the signal of the G channel in accordance with the difference between the signals of the G channel and B channel.
				B-R	Corrects the signal of the B channel in accordance with the difference between the signals of the B channel and R channel.

Maintenance menu		Submenu	Switch	Adjustment items	Description
Menu	Secondary menu				
		User 2/2			Sets the matrix correction factor individually. This is the second page of the settings.
				R-B	Corrects the signal of the R channel in accordance with the difference between the signals of the R channel and B channel.
				G-R	Corrects the signal of the G channel in accordance with the difference between the signals of the G channel and R channel.
				B-G	Corrects the signal of the B channel in accordance with the difference between the signals of the B channel and G channel.
		Multi			Allows you to change color reproduction for each hue divided into 16.
				Phase	Selects the hue to adjust.
				Hue	Changes the hue of colors within the hue range selected with Phase.
				Saturation	Changes the saturation of colors within the hue range selected with Phase.
			All Clear		Returns the factors of all ranges of Multi Matrix to their initial states.
	ATW Setting				Adjusts the Auto Tracing White balance.
			ATW		Enables the ATW function.
				Speed	Sets the convergence speed.
	Microphone Gain				Sets the sensitivity of the microphones mounted on the camera.
				Ch1	Sets the sensitivity of microphone 1.
				Ch2	Sets the sensitivity of microphone 2.
Lens					These are the maintenance items related to the lens.
	Auto Iris Settings				Sets various parameters of the auto iris.
				Level	Sets the convergence level of the auto iris. The higher the value the brighter it becomes.
				APL Ratio	Sets the responsiveness to detailed bright parts of the subject. The higher the value the nearer it becomes to the average value, resulting in unresponsiveness to detailed parts.
				Iris Gain	This is the response speed of the auto iris. The higher the value the faster the response, but hunting becomes more likely to occur.
				Pattern	Sets the detection area of the auto iris.
			Auto Iris		Enables the auto iris function.
	Flare				Corrects the phenomenon of black in the subject becoming bright and color being added due to the influence of the optical system. Adjusting this in the plus direction reduces the black level of the corresponding color in accordance with the brightness of the subject. Be careful not to overcorrect this.
			OFF		Disables the flare correction function.
				R/G/B	Adjusts the correction level of each of R, G, and B.
				Master	Links R, G, and B and adjusts them simultaneously.
	V Mod Saw				Corrects color shading in the vertical direction caused by the lens or optical system.
			OFF		Disables the V Modulation Saw correction function.
				R/G/B	Adjusts the correction level of each of R, G, and B.
				Master	Links R, G, and B and adjusts them simultaneously. R, B, and G move in the opposite direction.
			D.shade Comp		Automatically corrects V Mod Shading in accordance with the state of the lens. Operation is only possible for compatible lens.
	ALAC				This is the Auto Lens Aberration Compensation. It automatically reduces the chromatic aberration or magnification when using a compatible lens. When the function is stopped or a compatible lens is not attached, “Stop” is displayed on the screen.
			ON		Enables the ALAC function.

Maintenance menu		Submenu	Switch	Adjustment items	Description
Menu	Secondary menu				
	F Drop Comp				Automatically adjusts the gain to compensate for the reduction in brightness due to lens F drop.
			ON		Enables the F drop compensation function.
				F Drop Gain	Value of gain that compensates for lens F drop (display only).
				Max Gain	Adjustment gain with lens open to full aperture and zoom at the telephoto end.
				Drop Point	Position of break point in polygonal line approximation of F drop characteristic with the lens iris fully open. This corresponds roughly to the zoom position at which F drop occurs.
				Roundness	The F drop characteristic can be approximated by a polygonal line. However, depending on the lens, this is not a perfect polygonal line, but has a roundness in the vicinity of the break point (which is smoothly interpolated). The roundness is expressed in terms of the compensation gain at the break point position. The higher the value, the higher the smoothing between two straight lines of the polygonal line. A value of 0 represents a perfect polygonal line.
	Zoom/Focus				
			Active		Switches the zoom/focus operation between the panel (this unit) and the camera. (When Active is ON, zoom/focus cannot be adjusted on the camera side.)
			Distance (mm)		Switches the zoom display units. (Distance/Percentage)
			Distance (m)		Switches the focus display units. (Focus distance/Percentage)
				Zoom	Adjusts the zoom.
				Control	Switches the focus/zoom control mode.
				Focus	Adjusts the focus.
CCU					These are the maintenance items related to the CCU.
	Phase				When a synchronization signal is input to the CCU, this allows you to set the phase in relation to that signal.
		H			Sets the phase of H.
				H Step	Adjusts the phase of the H direction.
				H Coarse	Coarsely adjusts the phase of the H direction.
		SC			Adjusts the phase of the subcarrier.
				SC Phase	Adjusts the phase of the VBS subcarrier.
	Monitor Output				Sets the marker for monitor output.
			4:3 Marker		Places a 4:3 marker on a 16:9 image for monitor output of the CCU.
				Gate Marker	Sets the brightness of the gate marker (skin gate, etc.).
			4:3 Mod		Darkens the outside of a 4:3 area within an 16:9 image for monitor output of the CCU.
				Modulation Level	This is the level with which to darken with 4:3 Mod.
SD Adj					These are the maintenance items for down converter output.
	SD Detail				This is the contour correction function for down converter output.
			OFF		Disables the SD Detail function.
		1/3			This is the first page of SD Detail adjustment.
				Level	This the contour correction level. Adjusting this in the plus direction makes pictures sharp, and adjusting this in the minus direction makes pictures soft.
				Limiter	Makes adjustments so that contour correction is not greater than a set level to prevent overcorrection by strong contour correction when shooting subjects with large luminance differences. Adjusting this in the plus direction also enables clipping of objects with small luminance differences.

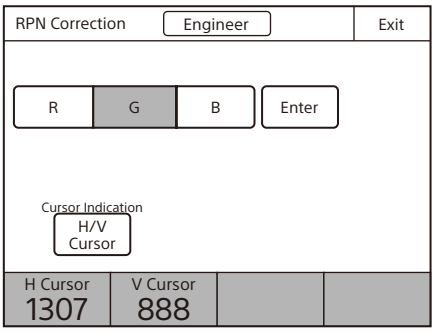
Maintenance menu		Submenu	Switch	Adjustment items	Description
Menu	Secondary menu				
				Crisp	Makes adjustments so that signals with small luminance differences are considered to be noise and correction is not applied to them in order to reduce the emphasizing of also the contours of noise by the contour correction function. Adjusting this in the plus direction results in luminance differences for which contour correction is not performed becoming large and improvements in S/N sensitivity, but resolution sensitivity deteriorates.
				Level Dep	Contour correction is not applied to the dark parts and S/N sensitivity is increased in order to reduce the emphasizing of also the contours of noise by the contour correction function. Adjusting this in the plus direction results in contour correction not being applied up to a brighter level.
		2/3			This is the second page of SD Detail adjustment.
				H/V Ratio	Adjusts the horizontal and vertical ratio of contour correction.
				Frequency	Adjusts the center frequency of contour correction.
		3/3			This is the third page of SD Detail adjustment.
				W Limiter	This is the limiter correction for detail signals added in the white direction.
				B Limiter	This is the limiter correction for detail signals added in the black direction.
	SD Gamma				This is the gamma correction for down converter output.
				SD M Gamma	Adjusts SD gamma.
	SD Matrix				This is the linear matrix correction for down converter output.
			OFF		Disables the SD matrix function. This switch enables the function to be turned ON/OFF simultaneously in accordance with individual matrix settings.
		User 1/2			Sets the SD matrix correction factor individually. This is the first page of the settings. When User Matrix is enabled, the ON mark appears on the very left of the tab.
			ON		Enables the User Matrix function.
				R-G	Corrects the signal of the R channel in accordance with the difference between the signals of the R channel and G channel.
				G-B	Corrects the signal of the G channel in accordance with the difference between the signals of the G channel and B channel.
				B-R	Corrects the signal of the B channel in accordance with the difference between the signals of the B channel and R channel.
		User 2/2			Sets the SD matrix correction factor individually. This is the second page of the settings. When User Matrix is enabled, the ON mark appears on the very left of the 1/2 tab.
			ON		Enables the User Matrix function. This is the same switch as 1/2.
				R-B	Corrects the signal of the R channel in accordance with the difference between the signals of the R channel and B channel.
				G-R	Corrects the signal of the G channel in accordance with the difference between the signals of the G channel and R channel.
				B-G	Corrects the signal of the B channel in accordance with the difference between the signals of the B channel and G channel.
		Multi			If Multi Matrix which allows you to change the color reproduction for each hue divided into 16 is enabled, the ON mark appears on the very left of the tab.
			ON		Enables the SD Multi Matrix function.
				Phase	Selects the hue to adjust.
				Hue	Changes the hue of colors within the hue range selected with Phase.
				Saturation	Changes the saturation of colors within the hue range selected with Phase.
			All Clear		Returns the factors of all ranges of Multi Matrix to their initial states.

Maintenance menu		Submenu	Switch	Adjustment items	Description
Menu	Secondary menu				
		Preset			Selects the matrix provided in advance. When Preset Matrix is enabled, the ON mark appears on the very left of the tab.
			ON		Enables SD Preset Matrix.
	Interpolation				Selects the filter for the down converter. Each of the frequency characteristics differ.
				H	Selects the filter for the horizontal direction.
				V	Selects the filter for the vertical direction.
	Cross Color Reduction				Reduces the cross color of VBS output.
			ON		Disables the Cross Color Reduction function.
				Coring	Sets cross color elimination to not work for detail signals.
				CC Reduction	This is the level for cross color elimination.
	Aspect				Sets the aspect for the down converter.
			SD Aspect Ratio		**16:9 Squeeze:** Outputs without converting the aspect. This is for a 16:9 monitor. **Letter Box:** Inserts a black band at the top and bottom and then outputs. This is for a 4:3 monitor. **4:3 Crop:** Crops to 4:3. This is for a 4:3 monitor.
				Letter Box	Sets the aspect of Letter Box.
			Center Lock		Crops the center part when cropping to 4:3.
				Crop Position	Sets the position for when cropping to 4:3.
RPN					Corrects the RPN. See “RPN correction” (page 47).
			R/G/B		Select the channel to correct.
			Enter		Confirms settings.
				H Cursor	Confirms the H cursor position.
				V Cursor	Confirms the V cursor position.
			H/V Cursor		Outputs the H and V cursors.
APR					This function is available when connecting F65. Starts the APR function of the camera.

RPN correction

Selecting RPN in the Maintenance menu allows you to correct white dots that appear on the screen manually.

The image sensor is manufactured with high precision technology. However, cosmic rays and other noise may affect the pixels of the CCD image sensor, resulting in small white dots appearing on the display. This is a physical characteristic of image sensors and is not a malfunction. Performing auto black balance adjustment activates the correction function, and may reduce the effects of this phenomenon.
In RPN correction, the white dots are corrected manually.



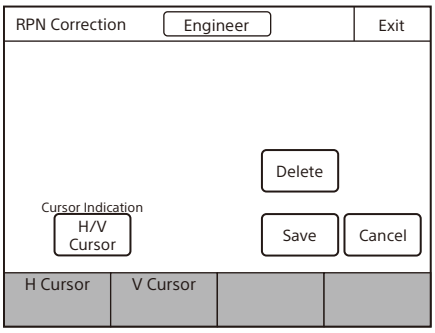
When you press RPN in the Maintenance menu, a cross-shaped cursor appears on the PIX monitor connected to the CCU. Perform the following steps while viewing the PIX monitor.

1 Press the button that corresponds to the channel you want to correct (R, G, or B) to light it.

2 Press the H/V Cursor button and turn the horizontal and vertical cursors ON.

3 Turn the adjustment knobs to move the cursors on the monitor to the position you want to correct.

4 Press Enter.
The cursor position is set, and the RPN Correction screen changes to the following.



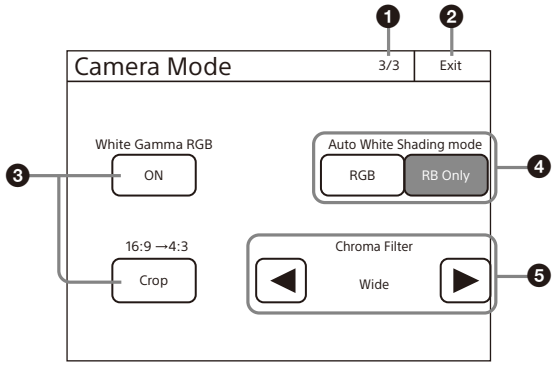
5 **Press** Save.
The adjustment value is registered in the control panel. To set a different correction value, press Delete to delete the previous value, and repeat the procedure in step **5**.

6 **Press** Exit.
The adjustment value is registered in the control panel.

Config Menu

This menu is for configuring the unit and connected devices.

Screen display example (when "Mode" is selected after selecting "Camera" (Camera Config) in the Config menu)



❶ **Page number/total number of pages**
When this indication is displayed, you can turn the SELECT knob to change the page.

❷ **EXIT button**
Press this to return to the previous menu screen.

❸ **Function switching buttons**
Press this to light the button and turn ON each of the functions.

❹ **Function selection buttons**
Press either of the buttons to select the function mode.

❺ **Chroma saturation filter**
Press ◀/▶ to select a filter.

Menu items

Menu items marked with an asterisk can also be set when not in engineer mode.

Config menu		Item	Option	Description
Menu	Submenu			
Camera				Sets the camera.
	Mode	White Setup Mode		Selects the white value for when an auto setup is performed or an item is cleared.
			AWB	Restores the auto white balance value obtained last time.
			Auto Level	Restores the reference file value.
		White Gamma RGB		Selects the reference for white and gamma of the auto setup.
			ON	R, G, and B are independent when this is ON, and all of R, G, and B use the G channel as the reference when this is OFF.
		Auto White Shading Mode		Sets the operation mode of auto white shading.
			RGB	Matches all of the R, G, and B channels so that they become even. A white subject with uniform luminance and no color shading must be used in this mode.
			RB Only	Matches the R and B channels to the G channel.
		Camera FAN Mode		Sets the operation mode of the camera fan.
			Maximum	Sets the number of revolutions of the camera fan to the maximum number.
			Auto1	Controls the number of revolutions of the fan in accordance with the internal temperature of the camera. This is the optimal mode for reducing any rise in the internal temperature.
			Auto2	Controls the number of revolutions of the fan in accordance with the internal temperature of the camera. This is the optimal mode for reducing the operation sound of the fan.
			Minimum	Sets the number of revolutions of the camera fan to the minimum number. However, if the internal temperature exceeds a specified value, the number of revolutions are increased.
		16:9 → 4:3		Crops a 16:9 picture to 4:3.
			Crop	Executes cropping when Crop is ON.

Config menu		Item	Option	Description
Menu	Submenu			
		V Detail Creation Mode		Select the generation method for V Detail.
			RGB Nam	Uses the V Detail generated from each of the R, G, and B channels that has the largest amplitude. This increases resolution sensitivity, but S/N sensitivity may deteriorate.
			G	Generates V Detail from the G channel.
			R+G	Generates V Detail from a signal combining R and G.
			Y	Generates V Detail from the luminance signal.
		V Detail Control Mode		Sets control for when the Detail H/V Ratio knob is turned.
			H/V	Moves H Detail and V Detail in the opposite direction in response to movement of the knob.
			V Only	Adjusts V Detail only.
		Chroma Filter		Sets the band for the chroma component. Full is the same band as the signal standard, and the band becomes narrower above that.
CCU				Sets the CCU.
	Mode	GenLock Mode		Selects the type of signal using synchronization.
			HD	This is the HD3 value SYNC.
			SD	This is BBS.
		Bars Character		Sets the characters to add to color bars signals.
			On	Add characters to color bars signals.
			Edit	Opens the character edit screen.
		Chroma		Turns OFF the VBS chroma signal.
			Off	Adds the chroma component to VBS.
	Return Settings		–	See “To set the CCU return input settings” (page 52).
RCP				See “RCP Config menu items” below.
Converter				Sets the converter (HDRC-4000).
	AIR Matching Mode			Turns the AIR matching function ON/OFF.
	Through Mode			Turns through mode ON/OFF. When set to ON, the signal that is input on the input connector is output without change as the output signal.
RCP Assign			Panel No.	Selects the target cameras to be controlled by the control panel. This can only be set when in MCS mode. In addition, all connected devices must support the RCP assignment function.
Multi Format				Sets the video format for each CCU output.
BPU Multi Format				Sets the video format for each BPU output.
Menu Control				See “To control the CAMERA/BPU/CCU menu” (page 53).

RCP Config menu items

Menu items marked with an asterisk can also be set when not in engineer mode.

Menu	Option	Description
Customize	Menu Customize	Changes the custom paint configuration.
	SW Customize	Assigns functions to spare switches.
	Custom Menu SW	Assigns functions to custom buttons.
	Assign Knob	Assigns functions to spare adjustment knobs.
	Standard Ind	Selects the standard state. The LED at the top of the corresponding indication lights green in the standard state, and amber in the non-standard state. It remains off when not even one standard state is selected.
	Status Customize	Changes the status screen configuration.
	MB Knob	Changes the function assigned to the master black adjustment knob (RCP-3501 only).
	Detail VR	Changes the function assignment of the Detail knob.
	Status Customize	Changes the status screen configuration.
	Status Display OFF	Turns OFF the status screen display.
	Menu Type	Selects the status screen type.
	Knob Customize	Sets the usable adjustment knob according to the status screen type.
	Knob1 - 4	Opens the menu which sets the function assignments of adjustment knobs.

Menu items marked with an asterisk can also be set when not in engineer mode.

Menu	Secondary menu	Submenu	Switch	Adjustment items	Description
Display/ Sound*	Sound				Sets the volume and type.
			OFF		Sets no sound to be emitted from the speakers.
		Call			Sets the call sound.
			Sound Test		Confirms the set call sound.
			CALL Sound		Disables the call sound.
				Volume	Adjusts the volume of the call sound.
				Sound	Selects the type of the call sound.
				Master	Simultaneously sets the volume for all sounds emitted from the speakers.
		Touch			Sets the operation sound for when a switch on the LCD is pressed.
			Sound Test		Confirms the set operation sound.
			Touch Sound		Disables the operation sound.
				Volume	Adjusts the volume of the operation sound.
				Sound	Selects the type of the operation sound.
				Master	Simultaneously sets the volume for all sounds emitted from the speakers.
		SW			Sets the operation sound for when a switch button is pressed.
			Sound Test		Confirms the set operation sound.
			Switch Sound		Disables the operation sound.
				Volume	Adjusts the volume of the operation sound.
				Sound	Selects the type of the operation sound.
				Master	Simultaneously sets the volume for all sounds emitted from the speakers.
		RE			Sets the operation sound for when an adjustment knob is turned.
			Sound Test		Confirms the set operation sound.
			RE Sound		Disables the operation sound.
				Volume	Adjusts the volume of the operation sound.
				Sound	Selects the type of the operation sound.
				Master	Simultaneously sets the volume for all sounds emitted from the speakers.
	LED				Sets the LED brightness.
			Switch		Sets the switch brightness.
			Tally		Sets the tally brightness.
			Other		Sets other LED settings.
			Master		Simultaneously sets the brightness of all items.
	LCD				Adjusts the LCD.
				Bright	Adjusts the brightness of the LCD.
	EL				Adjusts the backlight for illuminating the function names.
			OFF		Turns off the backlight.
			Light Detect		Turns off the backlight in response to the surrounding brightness.
				Detect	Sets the brightness for turning off the backlight.
				Bright	Adjusts the brightness of the backlight.

Menu items marked with an asterisk can also be set when not in engineer mode.

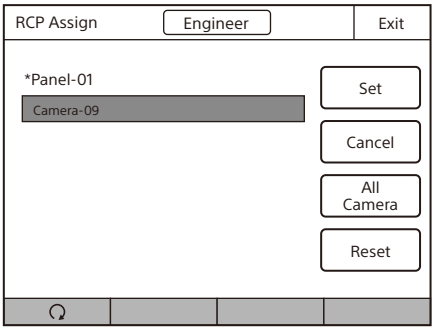
Menu	Item	Option	Description
RCP Mode	PIX/WF		Sets the operation for when PIX/WF output.
		PIX/WF Synchro	Links RGB selection in the menu and PIX/WF control for when Black Shading and White Shading are adjusted (linked when ON).
	Matrix Gate	Gate Interlock	When this is turned ON, priority is given to the setting of the control panel for the selection of Multi Matrix Gate when the control panel disables Panel Active or PARA, even if another panel has a different channel selected. This can only be set in engineer mode.
	Extend Call		The TALLY indicator continues to flash for a while when a call is received.
		ON	Enables Extend Call.
		Time	Sets the flashing duration of the TALLY indicator.
		Mode	Sets the condition for enabling this function.
	Preview		Specifies the output destination for previews.
	Panel Active	IRIS/MB Active Mode	Sets the IRIS/MB ACTIVE to enable the IRIS only.
VR Setting			See “Changing the Sensitivity of the Adjustment Knobs” (page 26).
Date/Time		Date	Sets the date.
		Time	Sets the time.
		Time Zone	Sets the time zone.
Network	Network Info		Displays the network information.
	CNS	Legacy/Bridge/MCS	Sets the CNS.
	TCP/IP	IP Address	Sets the IP address.
		Subnet Mask	Sets the subnet mask.
		Default GW	Sets the default gateway.
Information*	Version		Displays the software version information.
	Network Info		Displays the network settings information.
Security	Page Permission	Full Lock	Locks all menu screens.
		View Mode	Locks the menu screens. However, the menus can be viewed.
		Full Paint	Enables the menus such as Paint, Maintenance, and File.
	Item Permission	Ref File Enable	Enables the operation of reference files.
		Lens File Enable	Enables the operation of lens files.
		OHB File Enable	Enables the operation of OHB files.
		Crop Enable	Enables the operation of crop.
		Knee Max Enable	Enables the operation of Knee Max.
		APR Enable	Enables the operation of the Auto Setup menu.
		SW Menu Enable	Enables the operation of the Switch menu.
	Code Change	Code No.	Registers a security code.
	Engineer Protect	Code Enable	Protects switching to engineer mode with a security code.
	All Preset		Restores all settings to their default states.
	Engineer Mode*		Switches to engineer mode.
Switch Setting		CAM PW Long Press	Enables long-press mode for the CAM PW button.
		STANDARD Long Press	Enables long-press mode for the STANDARD button.
		SCENE FILE Long Press	Enables long-press mode for the SCENE FILE recall button.
RCP ID Set			Changes the ID setting for communications. Configure when two RCP units are connected in cascade to a CCU.
Option Key			Enables Key code installation of the Option Software.
Backup	RCP Config	Store	See “To save the settings of the unit to a USB drive” (page 26).
		Recall	
		File ID	
		Delete	
	Network Config	Store	
		Recall	
		File ID	
		Delete	

To change RCP assignments

You can change the camera number controlled by the unit by selecting RCP Assign in the RCP Config menu.

Note

The RCP assignment function is only available in MCS mode.



1 Use the adjustment knob on the bottom left to select the camera number for the camera you want to control.

If you select All Camera, all cameras will be displayed. (When All Camera is not selected, only devices with established connections to the Master of the MCS mode are displayed.)

2 To return all RCP assignments to their standard state, press Reset.

3 Press Set.

The changes to settings are applied.

To set PIX/WF operation

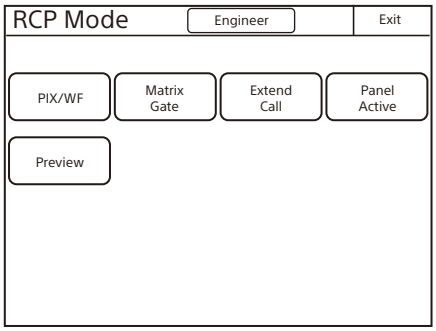
You can set the following operations for PIX/WF output.

- Whether to link output from the PIX1 OUTPUT and WF1 OUTPUT connectors to RGB switching on the adjustment display (PIX/WF Synchro setting).

This setting is configured in engineer mode.

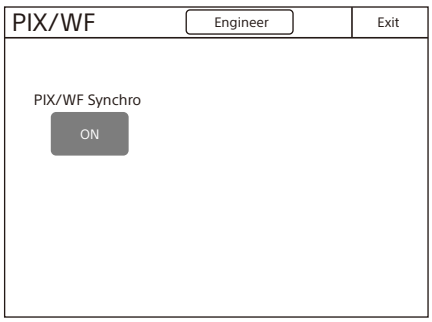
1 Press Mode on the RCP Config screen.

The RCP Mode screen appears.



2 Press PIX/WF.

The PIX/WF screen appears.



3 Set the PIX/WF operation.

The following settings can be configured.

PIX/WF Synchro

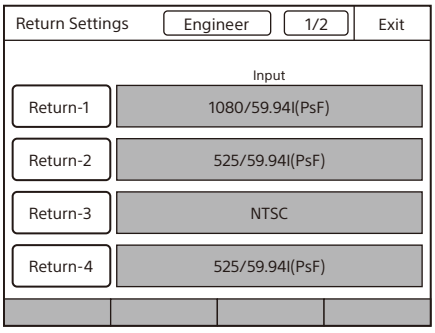
Turn ON/OFF linking of output from the PIX2 OUTPUT and WF2 OUTPUT connectors to RGB switching on the adjustment display.

- Press ON to light the button and switch to linking of output from the PIX2 OUTPUT and WF2 OUTPUT connectors to RGB switching on the adjustment display when the white shading or black shading is adjusted.
- Set OFF to output the signal selected with the PICTURE MONITOR or WAVEFORM MONITOR buttons from the PIX2 OUTPUT and WF2 OUTPUT connectors regardless of the RGB selection in the adjustment screen.

To set the CCU return input settings

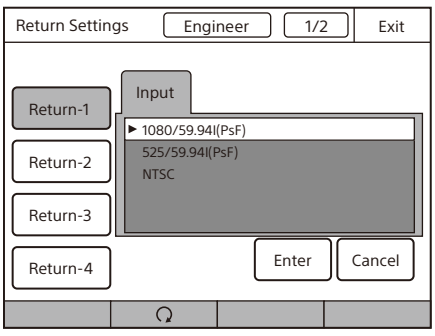
Select Return Settings in the Config menu of the CCU to set the formats of return signals from the CCU.
This can only be set when in engineer mode.

The input signal settings are displayed on page 1.



1 Press any one of Return-1 to Return-4.

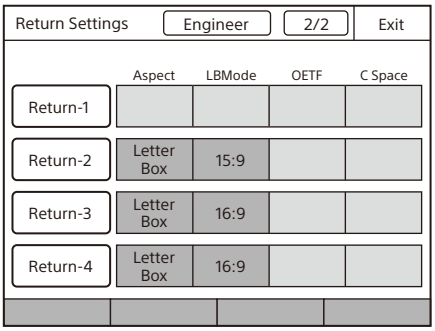
The screen for specifying the format of the return signal appears.



2 **Set the format of the return signal.**
Input**:** Specifies the input signal.

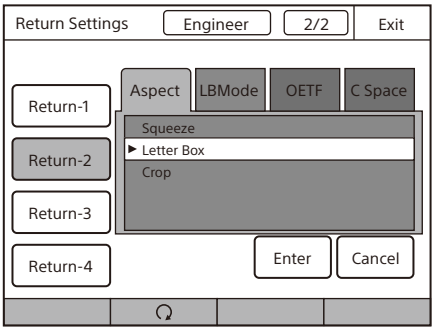
3 **Press** Enter**.**

4 **Turn the SELECT knob to move to page 2.**
The aspect ratio, letterbox display mode, OETF, and color space settings are displayed on page 2.



5 **Press the button for the return signal selected in step 1.**

6 **Configure the return signal settings.**



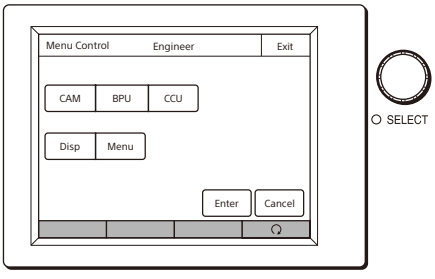
Aspect**:** Specifies the aspect ratio. This can only be set if you specified an SD signal on page 1.
LB Mode**:** Specify the display mode for letter box if you specified “Letter Box” for Aspect.
OETF**:** Specify the OETF. This can only be set for a CCU which supports HDR.
C Space**:** Specifies the color space. This can only be set for a CCU which supports HDR.

7 **Press** Enter**.**

8 **Repeat steps 1 to 7 if you also want to set the remaining return signals.**

To control the CAMERA/BPU/CCU menu

When you select Menu Control in the CONFIG menu, you can control the menu of the camera, BPU, or CCU from the unit remotely.
This can only be set when in engineer mode.



- Select the target device for menu control using CAM, BPU, or CCU. When a device is selected, the corresponding button is lit. When all button indications are not lit, no device is selected and menu control operation is disabled.
- Press the Disp button to show/hide the operating status of the camera or BPU. If pressed when CCU is selected, the display changes to the CHARACTER display.
- Use Menu to display or hide the target device menu.
- Press Enter to switch to configuration mode and to apply changes to settings.
- Press Cancel to exit configuration mode and cancel changes to settings.
- Turn the adjustment knob on the far right to move the cursor in the menu and to change a setting.
- Turn the SELECT knob to move the cursor in the men. Press the knob to select an item.

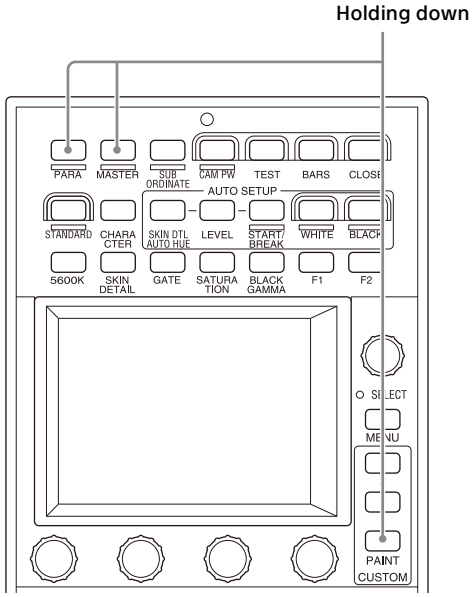
To protect operations with a security code

To prevent unwanted operations, you can protect operation of the control panel with a security code.

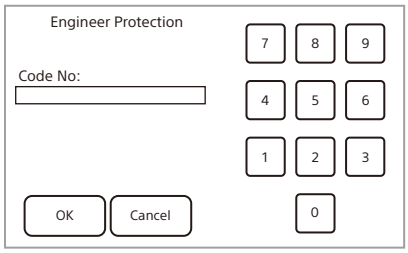
To enable security code protection

Under the default settings, the security code is disabled. Use the following procedure to enable the security code.

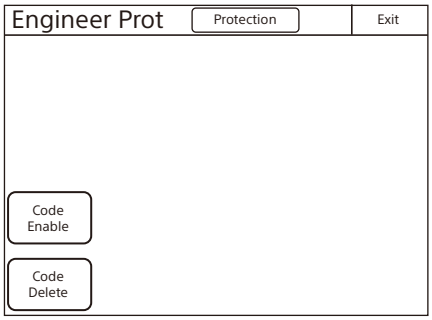
1 **Turn on the control panel while holding down the PARA, MASTER, and CUSTOM PAINT buttons.**



The numeric keypad appears.



2 **Use the numeric keypad to enter "0359" and then press [OK].**
The Engineer Protection screen appears.



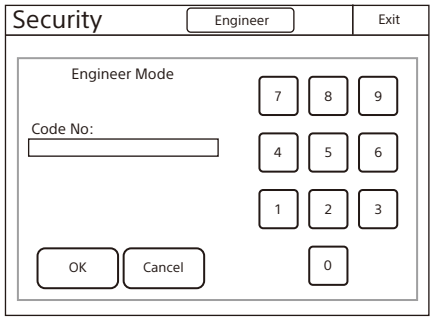
3 **Press [Code Enable] to light the button.**
Security code protection is enabled.
If you press [Code Delete] here to light the button, a confirmation screen for security code deletion appears. The Engineer Protection screen reappears when you press [OK].

4 **Press [Exit].**

To set the security code

Some of the menus on the control panel are operated in engineer mode. To limit the use of engineer mode to specific operators, preset the security code. The security code setting is configured in engineer mode. After you set the security code, it will need to be entered to switch to engineer mode.

1 **Press [Code Change] on the Security screen.**
The numeric keypad and new security code (Code No.) input field appear.



2 **Use the numeric keypad to enter any security code (1 to 8 digits), and then press [OK].**

Note

Each number entered for the security code appears as "*" on the screen.

A security code reentry screen appears.

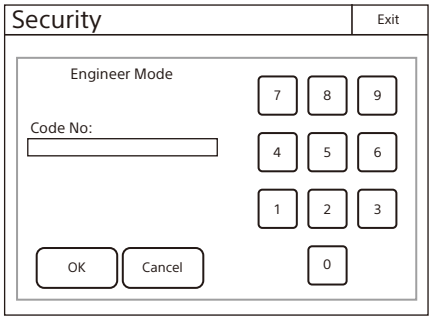
3 **Confirm the security code entered in step 2 by reentering it, and press [OK].**
The Security screen reappears.

4 **Press [Engineer Mode] to cancel engineer mode.**
The security code is set, and the numeric keypad will appear whenever you press [Engineer Mode] on the Security screen. To enter engineer mode, enter the security code that was set and press the [OK] button.

To change the security code

The security code is changed in engineer mode.

1 **Press [Engineer Mode] on the Security screen.**
The numeric keypad and security code (Code No.) input field appear.



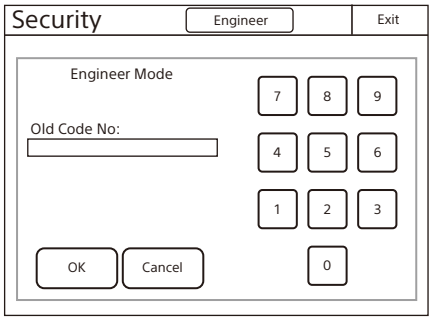
2 **Enter the security code, and then press [OK].**

Note

Each number entered for the security code appears as "*" on the screen.

The control panel enters engineer mode, and [Code Change] appears.

3 **Press [Code Change].**
The current security code (Old Code No.) input field appears.



4 **Enter the security code that you entered in step 2, and then press [OK].**
The new security code (New Code No.) input field appears.

5 **Perform steps 2 to 4 of "To set the security code" to set a new security code.**

To delete the security code

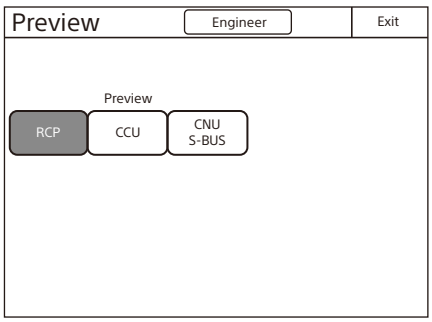
If you forget the security code or need to disable it to enter engineer mode in an emergency, perform the procedure in "To enable security code protection" (page 53), and perform one of the following in step **3**.
Press [Code Enable] to turn the button light off (security code protection is disabled).
Press [Code Delete] to light the button (the security code is deleted).

Changing the Output Destination for Previews

The output destination of the key signals for previews of the control panel can be changed.
This setting is configured in engineer mode.

1 **Press [Mode] on the RCP Config screen.**
The RCP Mode screen appears.

2 **Press** Preview**.**
The Preview screen appears.

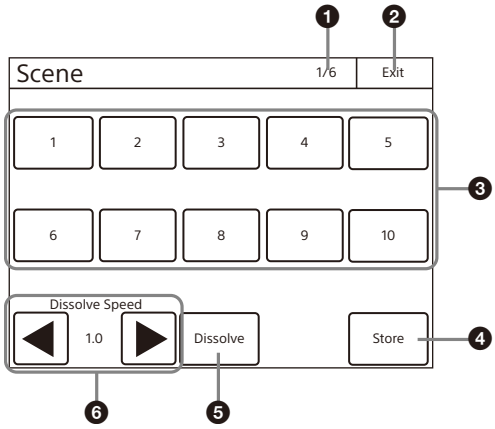


3 **Press a button to select the output destination.**
RCP**:** EXT I/O connector of the RCP unit
CCU**:** External output connector of the CCU
CNU S-BUS**:** S-BUS system via the CNU

Scene Menu

This menu is for selecting, registering, and configuring scene files.

Screen display example (when connected to the cameras of the 32 scene files)



❶ **Page number/total number of pages**
When this indication is displayed, you can turn the SELECT knob to change the page.

❷ **EXIT button**
Press this to return to the previous menu screen.

❸ **Scene files**
Select and press the number of a scene file to access the registered file. When you access a file, the number of the accessed scene file lights.
If you press the same number, the state returns to that before you accessed the file.

❹ **Store button**
Press this button and then press the desired scene file number to register the file. When file registration is finished, the Store button turns off.

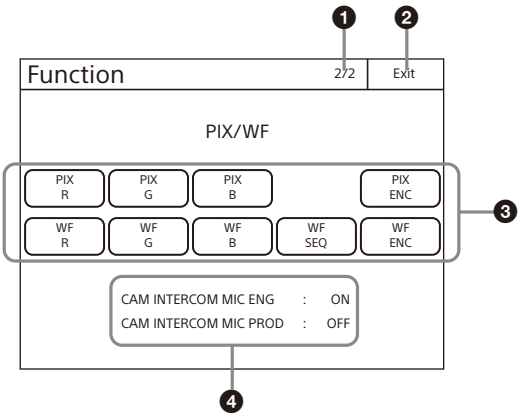
❺ **Dissolve button**
When you press this button to turn it on, the picture changes gradually when the scene file is accessed (when off, the picture changes instantly).

❻ **Dissolve Speed button**
Sets the approximate time to change the picture while the Dissolve button is on (the larger the number the longer it takes for the picture to change).

Function Menu

This menu switches the optical level display and PIX/WF.

Screen display example (when PIX/WF is selected)



❶ **Page number/total number of pages**
When this indication is displayed, you can turn the SELECT knob to change the page.

❷ **EXIT button**
Press this to return to the previous menu screen.

❸ **Description**
Press a button to light it and select the output signal or turn ON the shutter.

❹ **Item**
Displays the state of the camera intercom microphone (ON/OFF).

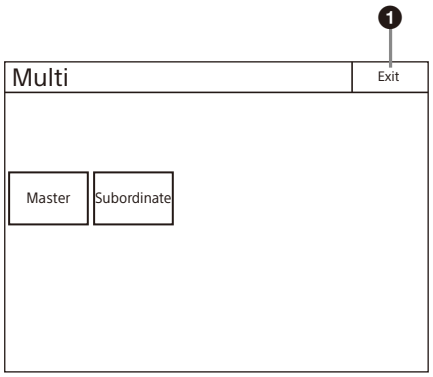
Menu items

Function menu items can also be set when not in engineer mode.

Menu	Item	Description
Optical Level	CAM	Displays the optical communication reception level of the camera.
	CCU	Displays the optical communication reception level of the CCU.
Optical Level (when connecting the separate camera)	CCU → BPU	Displays the optical communication reception level from CCU to BPU.
	BPU → CCU	Displays the optical communication reception level from BPU to CCU.
	BPU → CAM	Displays the optical communication reception level from BPU to the camera.
	CAM → BPU	Displays the optical communication reception level from the camera to BPU.
PIX/WF	PIX (R/G/B/ENC)	Selects the OUTPUT output signal of PIX2 of CCU. **R/G/B:** Outputs one of the R, G, and B signals (or a combination of multiple signals). **ENC:** Outputs an encoded signal.
	WF (R/G/B/SEQ/ ENC)	Selects the OUTPUT output signal of WF2 of CCU. **R/G/B:** Outputs one of the R, G, and B signals (or a combination of multiple signals). **SEQ:** Monitors the waveforms of the three signals R, G, and B in sequential mode. **ENC:** Outputs an encoded signal.
CAM INTERCOM MIC	CAM INTERCOM MIC ENG	Displays the state of the camera intercom microphone (engineer line) (ON/OFF).
	CAM INTERCOM MIC PROD	Displays the state of the camera intercom microphone (producer line) (ON/OFF).

Multi Menu

This menu switches between master/subordinate function.



❶ **EXIT button**
Press this to return to the previous menu screen.

Menu items

Multi menu items can also be set when not in engineer mode.

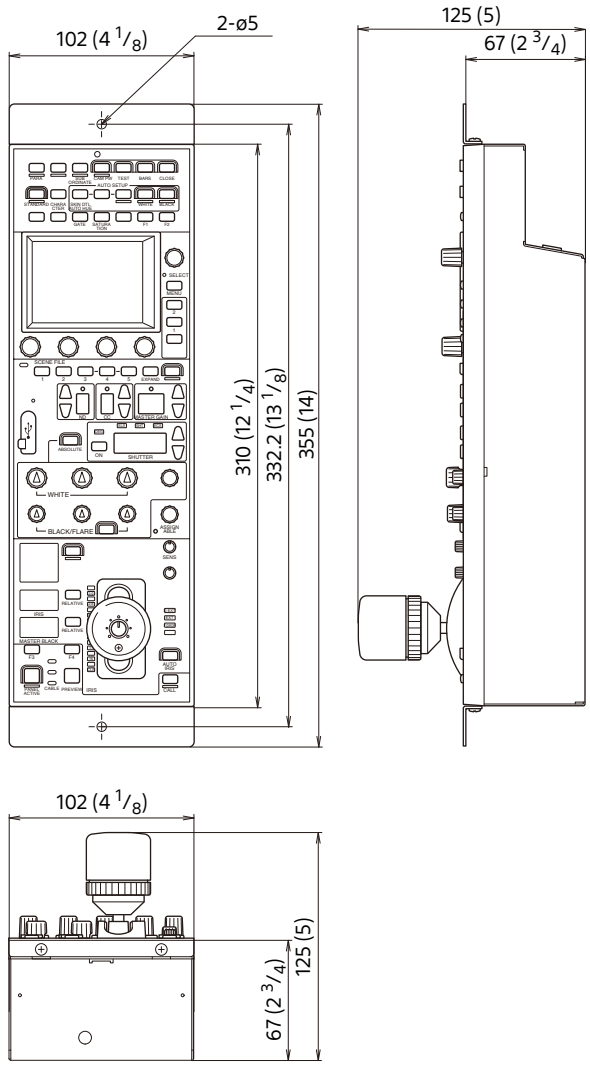
Item	Description
Master	Sets this unit to master mode.
Subordinate	Sets this unit to subordinate mode.

Specifications

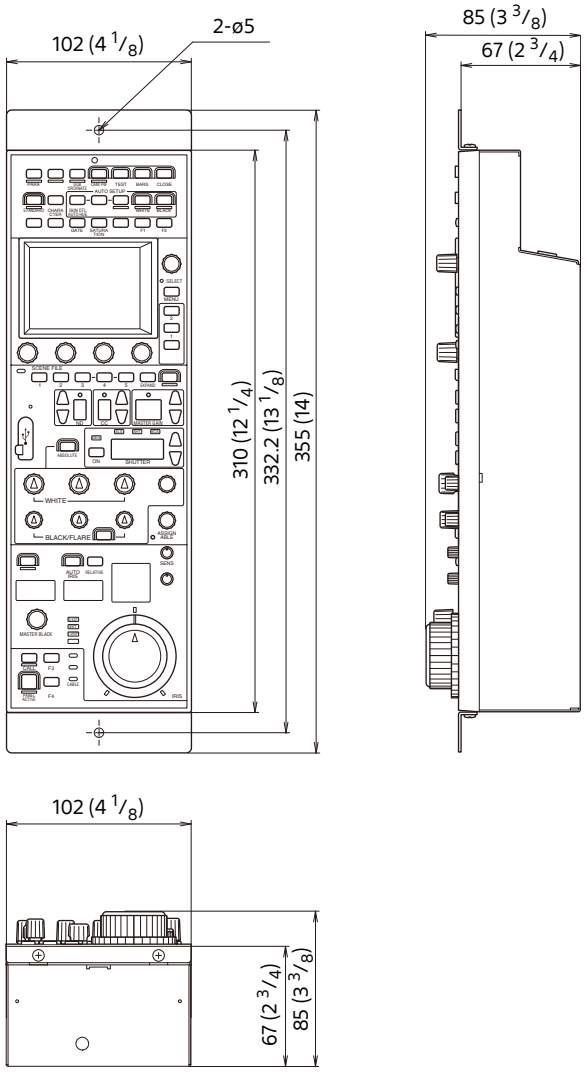
General	
Power supply	10.5 V to 17 V DC (for EXT I/O connector) PoE 36 V to 57 V (IEEE802.3af class 2 compliant)
Power consumption	10 W (including AUX connector output)
Operating temperature	5 °C to 40 °C (41 °F to 104 °F)
Storage temperature	–20 °C to +60 °C (–4 °F to +140 °F)
Mass	1.7 kg (3 lb. 12 oz.)
Inputs/outputs	
REMOTE	
品	8-pin RJ-45 (1)
CCU/CNU	8-pin multi-connector, female (1)
AUX	8-pin multi-connector, female (1)
EXT I/O	9-pin, female (1)
Supplied accessories	
Before Using This Unit (1) Operating Instructions (CD-ROM) (1)	
Optional accessories	
External I/O connector JAE DE-9PF-N (1-568-182-11) CCA-5-3 remote cable (3 m) CCA-5-10 remote cable (10 m) CCA-5-30 remote cable (30 m)	

External dimensions (Unit: mm (inches))

RCP-3500



RCP-3501



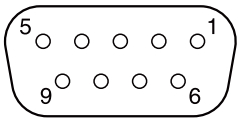
Design and specifications are subject to change without notice.

Note

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

Pin Assignment

EXT I/O connector (9-pin, female)



Pin	Signal name	Specifications	
1	PREVIEW S1	Contact (Max. 200 mA)	
2	PREVIEW S2	Contact (Max. 200 mA)	
3	PREVIEW IN	PREVIEW button input (ON: GND, OFF: Open)	
4	CALL OUT	CALL output (Open-collector, Max. 30 mA)	
5	TALLY ENABLE	ON: GND	OFF: Open
6	R TALLY IN	R TALLY IN	–
7	PREVIEW IN/G TALLY IN	G TALLY IN	PREVIEW IN
8	POWER IN	Power supply input (10.5 V to 17 V)	
9	GND	GND	

Note

The TALLY input from EXT I/O can be used in LEGACY mode or BRIDGE mode. It is disabled in MCS mode.

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