

# Remote Controller

## Operating Instructions

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

RM-IP500

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- 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 browse any other website in the Web browser while making settings or after making settings. Since the login status remains in the Web browser, close the Web browser when you complete the settings to prevent unauthorized third parties from using the unit or harmful programs from running.

## **Introduction**

### **Safety Regulations (Supplied)**

Describes the important points for safe use of the unit. Be sure to read it.

### **Operating Instructions (This document/ Web)**

These operating instructions describe the names of the various parts of the unit, installation, connection, and operation methods.

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## **Using This Manual**

The Operating Instructions is designed to be read on a computer display.

The content you need to know in order to use the unit is described here.

Read it before you operate the unit.

### **Jumping to a related page**

When you read the instructions on a computer display and click on the related part of the relevant page that is being displayed, you jump to the related page. Relevant pages can be searched easily.

### **Software display examples**

The software displays described in this manual are explanatory examples. Note that some displays may be different from the ones that actually appear.

### **Printing the Operating Instructions**

Depending on your system, certain displays or illustrations in the Operating Instructions, when printed out, may differ from those that appear on your screen.

### **Terminology in this document**

The RM-IP500 is referred to as the “unit” or “remote controller” in this document.

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## **Features**

This unit is a remote controller that provides the full functionality and operability of Sony PTZ cameras.

### **Simple system construction**

The unit can be used to control up to 100 cameras connected via LAN connection using switching hubs. You can build a system, using the setup functions of the unit, to set the IP address and camera number of multiple cameras in a single step, without using a setup PC.

### **Functional design**

The buttons and knobs of the control panel are grouped by type of operation for easy operation. For example, the buttons and knobs for making color adjustments on a camera are grouped together in the color adjustment block.

### **Compact size**

The unit has a compact size for mounting on a desktop. It can also be mounted in a console desk.

### **Flexible camera operation for various use cases**

You can adjust the pan, tilt, and zoom of the camera image with one hand using a joystick. The zoom operation can also be controlled using a zoom lever, enabling detailed camera control using both hands. The speed of pan, tilt, and zoom can also be adjusted using a speed adjustment knob.

### **Preset memory function**

You can save camera settings, such as pan/tilt/zoom positions and other camera adjustment settings, in the memory of the camera. The stored settings can be recalled and applied to the camera by pressing a preset number button assigned when storing settings.

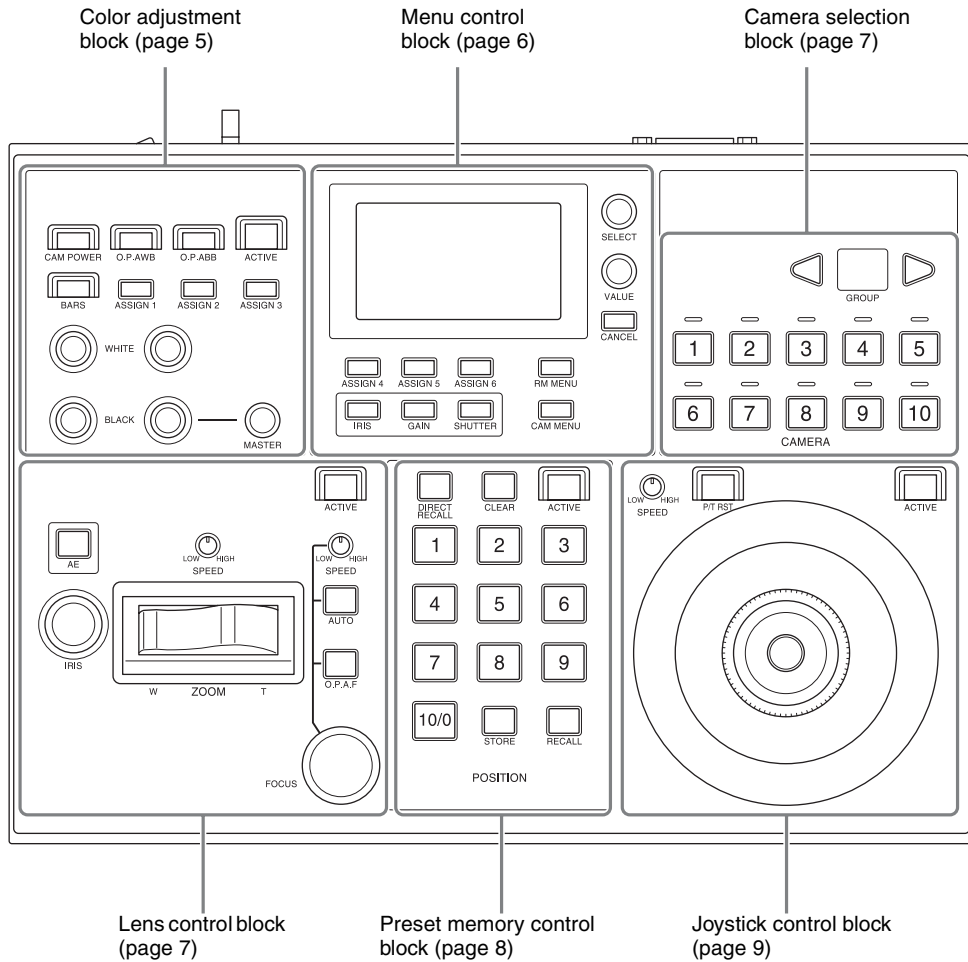
### **Simple operation of various camera adjustments**

Using the buttons on the unit, you can quickly control various camera functions, such as auto focusing, one-push auto focus, AE (Auto Exposure) function, one-push auto white balance, and backlight compensation, without having to access the camera menu.

# Location and Function of Parts

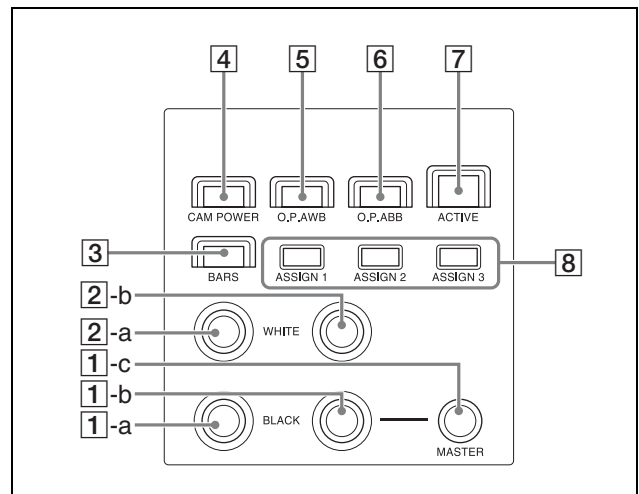
The functions controlled by the buttons and knobs vary depending on the target camera to control. For details, see “Function of Buttons/Knobs in Each Block by Camera Model” (page 41).

## Top



### Color adjustment block

Use to perform color adjustments on a camera. Select the target camera to adjust the color. The color adjustment block is enabled when the **7** ACTIVE button is lit. For details about selecting the target camera, see “Selecting a Camera” (page 27).



- 1** **1-a R-BLACK knob**  
**1** **1-b B-BLACK knob**  
**1** **1-c MASTER BLACK knob**  
 Adjusts the R black, B black, and master black of the target camera.  
 For details, see “Adjusting the black balance” (page 33).

- 2** **2-a R-WHITE knob**  
**2** **2-b B-WHITE knob**  
 Sets the R gain and B gain of the target camera, and adjusts the white balance.  
 For details, see “Adjusting the white balance” (page 32).

- 3** **BARS button**  
 Toggles the color bars output of the target camera on/off.  
 When the button is turned on (button is lit yellow), color bars output is turned on.  
 When the button is turned off (button is not lit), color bars are not output.

- 4** **CAM POWER button**  
 Toggles the power supply of the target camera on/off (standby).  
 When the button is turned on (button is lit green), the target camera is turned on.  
 When the button is turned off (button is not lit), the target camera is turned off (standby).

**Note**

When controlling more than one camera, the camera on/off operation is determined by the CONFIG >RM SETUP >CAM POWER setting in the RM menu. For details, see “CAM POWER” (page 46).

- 5** **O.P.AWB (one-push auto white balance) button**  
 Executes one-push auto white balance adjustment on the target camera.  
 For details, see “To adjust the white balance automatically” (page 32).

- 6** **O.P.ABB (one-push auto black balance) button**  
 Executes one-push auto black balance adjustment on the target camera.  
 For details, see “To adjust the black balance automatically” (page 33).

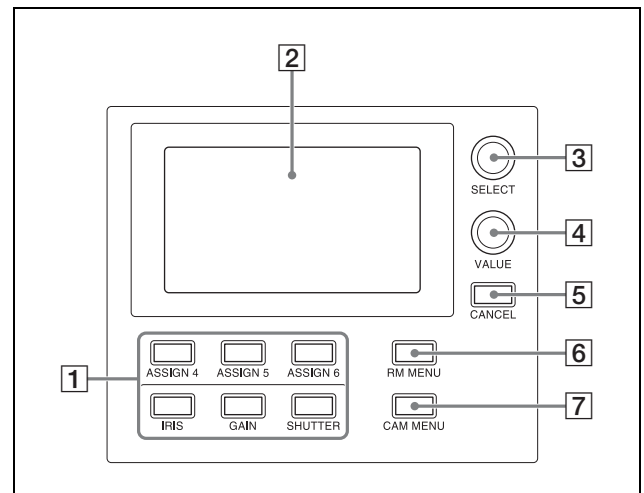
- 7** **ACTIVE button**  
 Enables/disables the color adjustment block.  
 When the button is turned on (button is lit), the color adjustment block becomes enabled.  
 When the button is turned off (button is not lit), the color adjustment block becomes disabled.

- 8** **ASSIGN 1 button, ASSIGN 2 button, ASSIGN 3 button**  
 Executes functions assigned to each button on the target camera.  
 In this version, the following functions have been assigned, and cannot be changed.

Button name	Assigned function
ASSIGN 1	Perform backlight compensation on the target camera. For details, see “Backlight compensation” (page 32).
ASSIGN 2	Perform flicker compensation on the target camera. For details, see “Flicker compensation” (page 32).
ASSIGN 3	Display the iris, gain, shutter speed, and zoom position settings of the target camera on the LCD panel. For details, see “Checking Camera Settings Status (Status Display)” (page 38).

**Menu control block**

Comprises buttons and knobs you use to set and execute functions, and to change settings on the target camera using menu operations.  
 For details about menu operations, see “Menu Operations” (page 12).



- 1** **FUNCTION menu buttons**  
 When a button is pressed, the item and setting of the function assigned to the button is displayed on the LCD panel, and the setting can be changed using the VALUE knob.  
 The IRIS, GAIN, and SHUTTER button operations are enabled when the buttons are lit blue.  
 For details about operation, see “Setting Specific Functions using Shortcuts (FUNCTION Menu)” (page 37).

**IRIS button:** Press this button to display the iris value settings screen for the camera on the LCD panel.

**GAIN button:** Press this button to display the gain value settings screen for the camera on the LCD panel.

**SHUTTER button:** Press this button to display the shutter speed value settings screen for the camera on the LCD panel.

**ASSIGN 4 button, ASSIGN 5 button, ASSIGN 6 button:** Press these buttons to display the corresponding setup item and setting of the function assigned to each button on the LCD panel.

In this version, the following functions have been assigned, and cannot be changed.

Button name	Assigned menu item
ASSIGN 4	Sets DETAIL LEVEL on the target camera.
ASSIGN 5	Sets KNEE POINT on the target camera.
ASSIGN 6	Sets AE LEVEL on the target camera.

For details about menu operations, see “Menu Operations” (page 12).

## 2 LCD panel

Displays the RM menu, FUNCTION menu, and preset memory numbers.

- For details about menu operations, see “Menu Operations” (page 12).
- For details about the RM menu, see “RM Menu List” (page 43).
- For details about the FUNCTION menu, see “Setting Specific Functions using Shortcuts (FUNCTION Menu)” (page 37).
- For details about preset numbers, see “Storing the Camera Status (Preset Function)” (page 34).

## 3 SELECT knob and button

Use to select menu items.

For details about menu operations, see “Menu Operations” (page 12).

## 4 VALUE knob and button

Use to select the settings of menu items.

For details about menu operations, see “Menu Operations” (page 12).

## 5 CANCEL button

Use to move from a lower level to a higher level in the hierarchy for menu items that have a multi-level hierarchy.

## 6 RM MENU button

Press this button to display the setup menu of the unit on the LCD panel.

For details about menu operations, see “Menu Operations” (page 12).

## 7 CAM MENU button

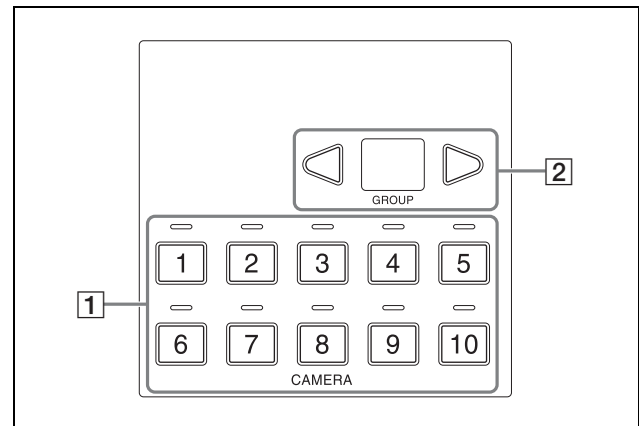
Press and hold this button to display the setup menu of the camera on the monitor output of the camera. Nothing is displayed on the LCD panel of the unit. For details about operation, see “Operating the Camera Setup Menu from the Unit (Camera Menu Operation Mode)” (page 35).

## Camera selection block

Use to select the target camera to control.

When using LAN connection, the unit can control up to 100 cameras.

When using serial connection, the unit can control up to 7 cameras.



## 1 CAMERA 1 to CAMERA 10 buttons

Selects the target camera from within a group.

For details about selecting the target camera, see “Selecting a Camera” (page 27).

## 2 GROUP LEFT button, group number display, GROUP RIGHT button

Select the target camera group using the GROUP LEFT button and GROUP RIGHT button. The number of the selected group is displayed in the group number display.

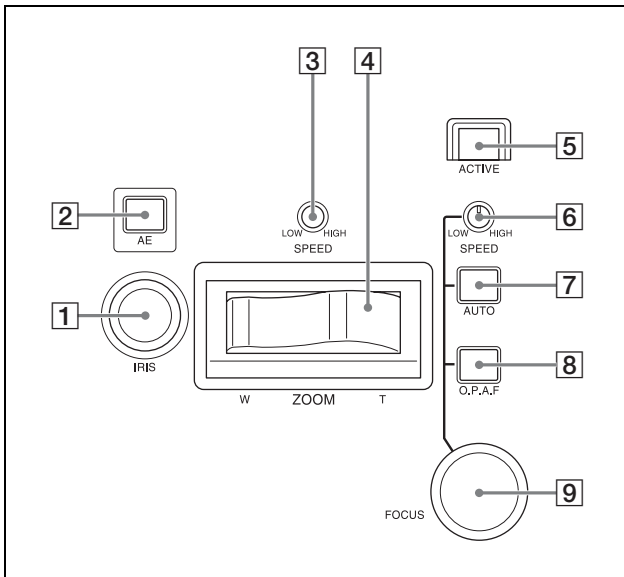
Group numbers are used with LAN connections.

For details about selecting a group, see “Selecting a Camera” (page 27).

## Lens control block

Use to control the lens (adjustment and settings) of the target camera.

The lens control block is enabled when the 5 ACTIVE button is lit. Note that the ZOOM SPEED knob is always enabled.



- 1 IRIS knob**  
Adjusts the iris of the target camera.  
For details, see “To adjust the exposure manually” (page 31).
- 2 AE button**  
Switches the exposure mode of the target camera. When the button is turned on (button is lit), auto adjustment mode is selected. When the button is turned off (button is not lit), the exposure mode set in the RM menu is selected.  
For details, see “To adjust the exposure automatically” (page 31).
- 3 ZOOM SPEED knob**  
Sets the speed of zoom operations.  
For details, see “To control the zoom using the ZOOM lever on the lens control block” (page 30).
- 4 ZOOM lever**  
Controls the zoom operation of the target camera.  
For details, see “To control the zoom using the ZOOM lever on the lens control block” (page 30).
- 5 ACTIVE button**  
Enables/disables the lens control block. When the button is pressed, turning it on (button is lit), the lens control block becomes enabled. When the button is turned off (button is not lit), the lens control block becomes disabled.
- 6 FOCUS SPEED knob**  
Sets the focus speed when adjusting the focus manually.  
For details, see “To adjust the focus manually” (page 31).

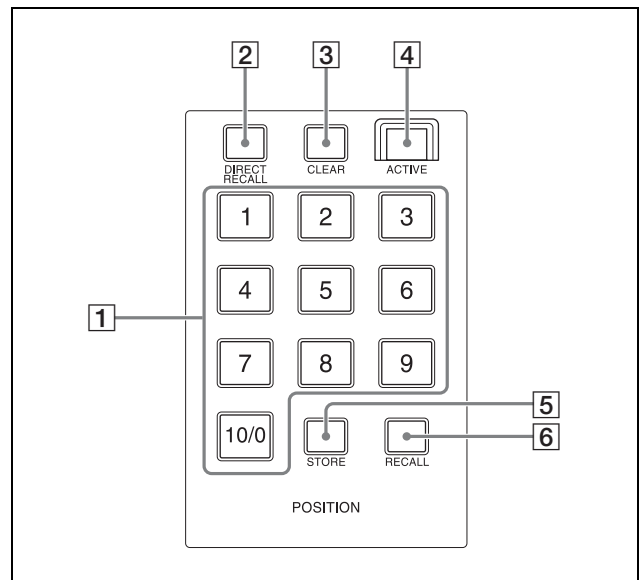
- 7 AUTO FOCUS mode button**  
Switches between automatic (button is lit) and manual (button is not lit) focus adjustment mode on the target camera.  
For details, see “To adjust the focus automatically” (page 31).
- 8 O.P.A.F (one-push auto focus) button**  
Press during manual focus adjustment mode to execute one-push auto adjustment.  
For details, see “One-push auto focus during manual focus adjustment” (page 31).
- 9 FOCUS adjustment knob**  
Adjusts the focus of the target camera manually.  
For details, see “To adjust the focus manually” (page 31).

### Preset memory control block

Use to execute the Preset function for storing and recalling camera status (such as pan, tilt, zoom position settings) in internal memory on the camera. The preset memory control block is enabled when the **4** ACTIVE button is lit.

#### Note

The number of presets varies depending on the model and firmware version of the camera. For details, refer to the Operating Instructions supplied with the camera.



- 1 PRESET 1 button to PRESET 10/0 button**  
Use to enter the number (preset number) for registering and recalling a preset camera status.  
For details, see “Storing the Camera Status (Preset Function)” (page 34).



## 2 DIRECT RECALL button

Recalls a preset stored in the target camera. Direct recall mode is enabled when the button is lit. Press PRESET 1 to PRESET 10/0 to recall the stored settings immediately.

For details, see “Storing the Camera Status (Preset Function)” (page 34).

## 3 CLEAR button

Clears the currently entered preset number.

## 4 ACTIVE button

Enables/disables operation of the preset memory control block.

When the button is turned on (button is lit), the preset memory control block becomes enabled. When the button is turned off (button is not lit), the preset memory control block becomes disabled.

## 5 STORE button

Stores the camera status in the internal memory of the camera for the specified preset number.

For details, see “Storing the Camera Status (Preset Function)” (page 34).

## 6 RECALL button

Recalls a preset stored in the target camera.

For details, see “Recalling stored status” (page 34).

## Joystick control block

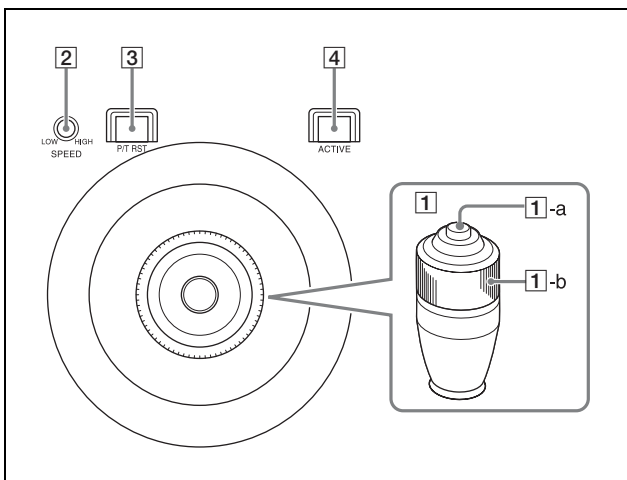
Use to control the pan, tilt, and zoom of the target camera using a joystick.

The joystick control block is enabled when the

### 4 ACTIVE button is lit.

Select the target camera to control the pan, tilt, and zoom using a joystick.

For details about camera pan, tilt, and zoom operations, see “Pan and tilt control” (page 29) and “Zoom control” (page 30).



## 1 Joystick

Controls the pan, tilt, and zoom operation of the target camera.

**Pan/tilt:** Incline the joystick left/right to rotate the camera counterclockwise/clockwise (pan left/right), incline the joystick forward/backward to tilt the camera up/down. The panning/tilting speed changes according to the angle at which you incline the joystick. Movement stops when the joystick returns to the center position (position the joystick returns to after removing your hand).

**Zoom:** Turn the ZOOM ring on the upper part of the joystick clockwise to make the subject larger (zoom in). Turn it counterclockwise to make the subject smaller (zoom out).

### 1-a Joystick button

Press and hold to return the orientation of the camera to face the front.

### 1-b ZOOM ring

Controls the zoom.

For details, see “To control the zoom using the ZOOM ring on the top of the joystick” (page 30).

### 2 PAN-TILT SPEED knob

Adjusts the speed of pan/tilt operations in response to the joystick.

For details, see “To adjust the pan/tilt speed” (page 29).

### 3 P/T RST (pan/tilt reset) button

Press the button to reset the pan/tilt position of the target camera.

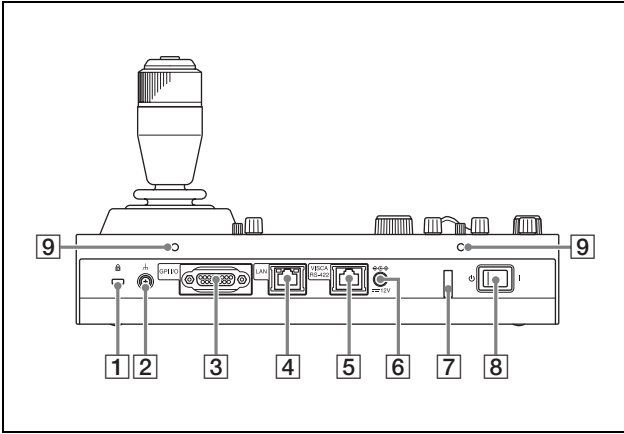
### 4 ACTIVE button




Enables/disables operation of the joystick control block.

When the button is turned on (button is lit), operation of the joystick control block becomes enabled.

When the button is turned off (button is not lit), operation of the joystick control block becomes disabled.

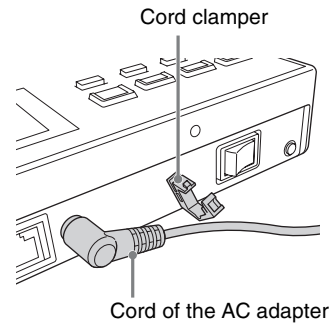
## Rear



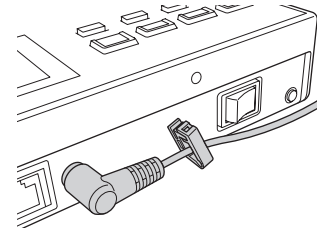
- 1**  **Anti-theft wire attachment point**  
Attach a wire to prevent theft.
- 2**  **Ground connection**
- 3** **GPI I/O connector**  
Used as a tally input from an external device or as a contact output connector of the selected camera number.
- 4** **LAN (network) connector (RJ-45)**  
Use for LAN connection.  
Connect a LAN hub (10BASE-T/100BASE-TX) using a LAN cable (category 5 or higher).  
When a link is established, the green indicator lights, and it blinks during communication. For 100BASE-TX connections, the yellow indicator lights.
- 5** **VISCA RS-422 connector (RJ-45)**  
Used for VISCA RS-422 serial connection.
- 6**  **12V (DC power supply input) connector**  
Connect to an AC power adapter.
- 7** **Cord clammer**  
Clamp the cord of the AC power adapter to prevent the cord from being pulled out of the unit.

- 1** Release the lock of the cord clammer.

- 2** Connect an AC adapter.



- 3** Thread the cord of the AC power adapter through the cord clammer, then close the lock.



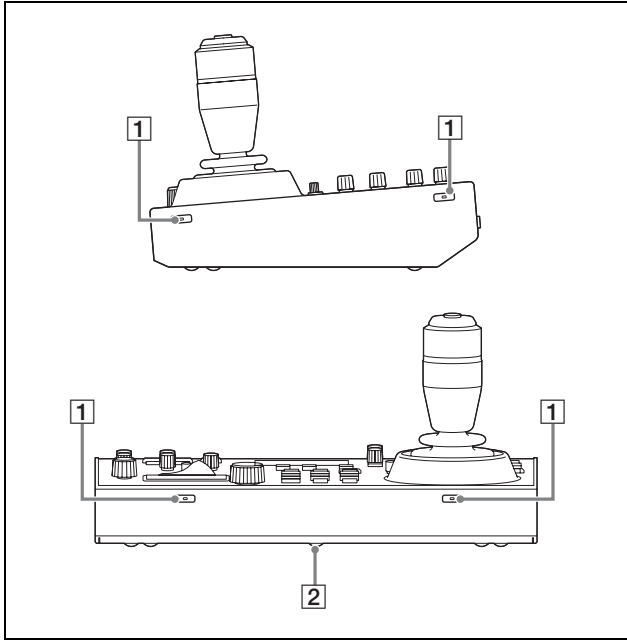
- 8** **Power switch**  
Turns the power  (on) and  (off).

### Note

When the unit is mounted in a console desk, turn the power on/off using the main power supply of the console desk.

- 9** **Screw holes**  
Mounting points available for use when not mounting the unit on a flat surface.  
Screw holes are provided on all sides, with the screw holes on the front, left, and right sides protected by covers (six locations).

## Side / front

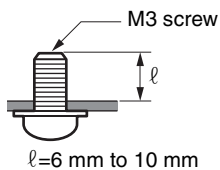


### 1 Screw hole protective covers

When mounting the unit on other than a flat surface, remove the screw hole protective covers and secure the unit in place with screws. There are a total of six covers on the front, left, and right sides.

#### Note

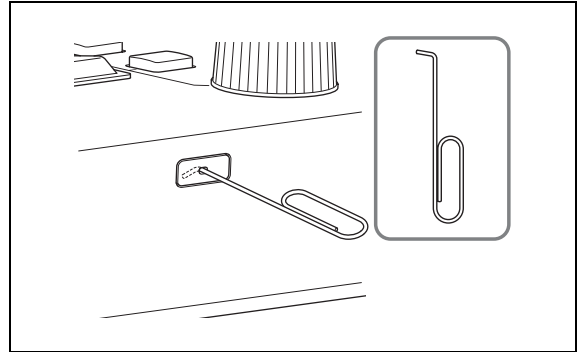
- Use standard size screws with the following dimensions.



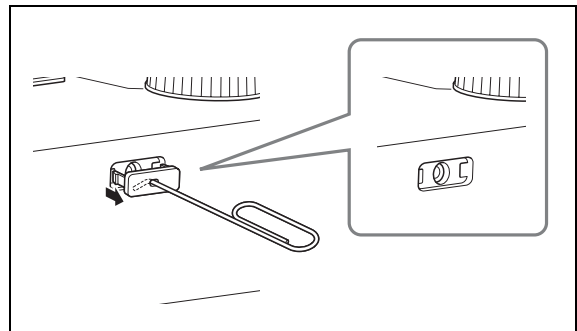
- Do not overtighten the screws. Overtightening the screws may damage the unit.
- Store the removed screw hole protective covers in a safe location.
- Using screws other than 6 mm to 10 mm may result in faulty installation or damage to the interior of the machine, resulting in malfunction.

## Removing the screw hole protective covers

- 1 Bend the tip of a thin rod about 2 mm, and insert it into the hole of the screw hole protective cover. Use a paper clip or other object with a diameter of about 1 mm.



- 2 Pull the screw hole protective covers straight out.



### 2 Ratings label (bottom)

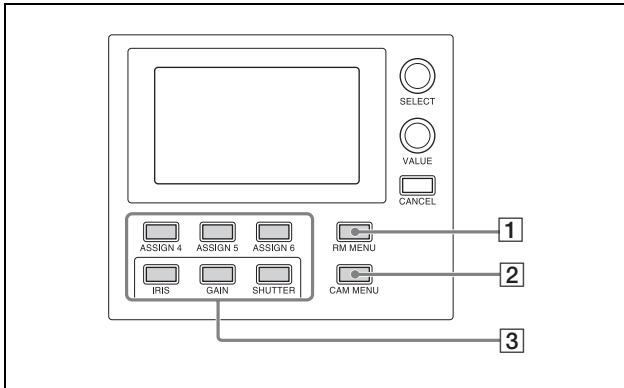
Displays the model name and electrical ratings information.

#### IMPORTANT

The nameplate is located on the bottom.

# Menu Operations

The menu control block is used to configure the device settings and camera settings.



One of the three menus (RM menu, camera menu, or FUNCTION menu) is always selected. When the RM menu or FUNCTION menu is selected, the menu items and settings are displayed on the LCD panel. When the camera menu is selected, nothing is displayed on the LCD panel.

## Note

Except for the OPERATION menu, return to the top menu when operating a camera. If a lower-level menu is displayed, cameras cannot be operated.

### 1 RM menu

This menu is used to configure picture quality adjustments and compensation functions on target cameras, configure the unit, execute/configure auto assign functions on cameras, and for performing configuration from a connected setup PC. When the RM menu button is turned on, RM menu setup mode is invoked and the top menu is displayed on the LCD panel. For details, see “RM Menu List” (page 43).

### 2 Camera menu

Turns the superimposed output of the camera setup menu on the camera image on/off. When turned on, operation of the setup menu on the camera using the knobs and buttons on the menu control block and the joystick is enabled. For details, see “Operating the Camera Setup Menu from the Unit (Camera Menu Operation Mode)” (page 35).

### 3 FUNCTION menu

This menu is used to configure functions assigned to buttons using shortcuts.

For details, see “Setting Specific Functions using Shortcuts (FUNCTION Menu)” (page 37).

## Basic menu operations

### Buttons and knobs used for RM menu operations

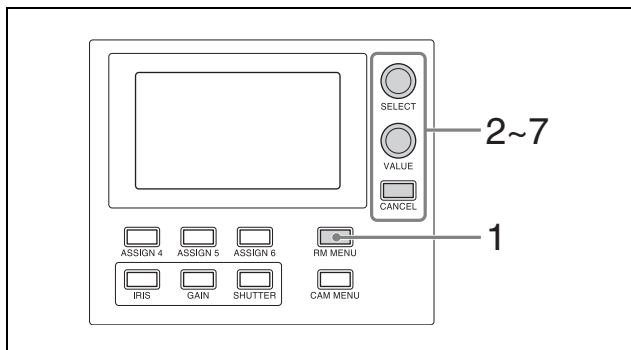
Operation	Buttons and knobs used	
	OPERATION menu	CONFIG, AUTO IP SETUP, or MAINTENANCE menu
Display the top menu.	Press the RM MENU button.	
Select a top menu item.	Turn the SELECT knob.	
Confirm the menu item selection.	Press the SELECT button.	
Select a setup menu item.	Turn the SELECT knob.	
Confirm the setup menu item selection.	Press the SELECT button.	
Select a setup menu sub item.	Turn the SELECT knob.	
Change the setting of the setup menu sub item.	Turn the VALUE knob.	
Confirm the changed setting.	Confirmation not required.	Press the VALUE button.*1
Save settings.	Saved on the camera using the camera preset memory function.*3	Save on the unit.
Go back one level in the menu.	Press the CANCEL button.	Press the CANCEL button.*2

\*1 A confirmation message appears for settings that display an EXEC item.

\*2 If the CANCEL button is pressed before attempting to save, the menu display goes back one level and restores the existing setting.

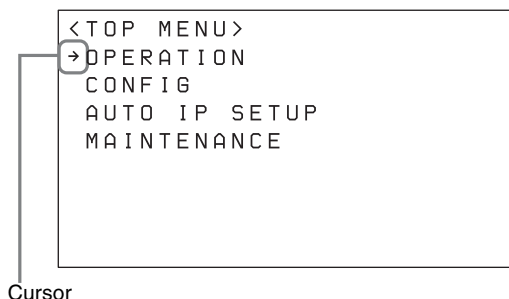
\*3 For details about items saved with a preset number, refer to the operating instructions of each camera.

## Typical RM menu operation



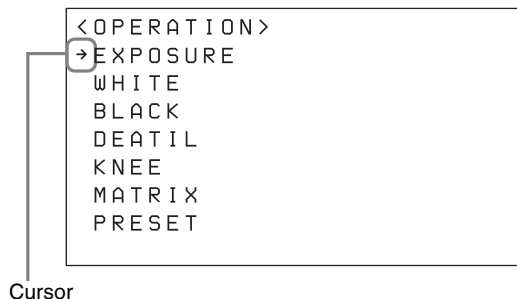
**1** Press the RM MENU button, turning it on (button is lit yellow).  
The RM menu top menu appears.

**2** Turn the SELECT knob to move the cursor to the desired item to set.  
The cursor moves up/down as the SELECT knob is turned.



**3** Press the SELECT button.  
The menu for the selected item appears.

**4** Turn the SELECT knob to move the cursor to the desired setup menu item.  
The cursor moves up/down as the SELECT knob is turned.

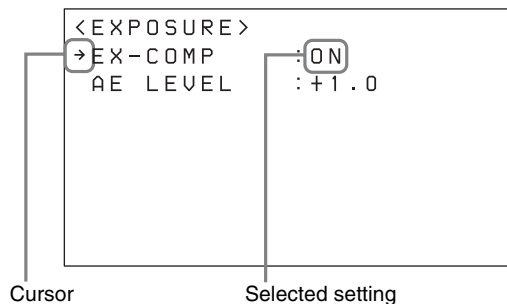


**5** Press the SELECT button.  
The selected menu item and its setup items appear.

**6** Turn the SELECT knob to move the cursor to the desired item.

The cursor moves up/down as the SELECT knob is turned.

**7** Turn the VALUE knob to select the setting.



### To configure items in other menus

Press the CANCEL button to return to the parent item in the menu, and then use the same procedure.

### To save a setting in the unit

Press the VALUE button after adjusting the setting.

## Getting Started

# Connections

You can connect the unit to cameras using VISCA over IP (LAN) connection or VISCA RS-422 (serial) connection.

The connection method that is used is displayed at the bottom of the CONFIG menu item in the RM menu.

### VISCA over IP (LAN) connection

```
<CONFIG>
RM SETUP
SW ASSIGN
DIRECTION
GPI I/O
LAN
SERIAL
CONTROL I/F: LAN
```

### VISCA RS-422 (serial) connection

```
<CONFIG>
RM SETUP
SW ASSIGN
DIRECTION
GPI I/O
LAN
SERIAL
CONTROL I/F: SERIAL
```

- For details about VISCA over IP (LAN) connection, see “VISCA over IP (LAN) connection” (page 14).
- For details about VISCA RS-422 (serial) connection, see “VISCA RS-422 (serial) connection” (page 21).

For details about connections, refer to the operating instructions supplied with the camera.

## VISCA over IP (LAN) connection

VISCA over IP (LAN) connection is configured using the following sequence.

Setting the IP address of the unit (page 14)



Connecting remote controllers, cameras, and setup PC using LAN connection (page 16)

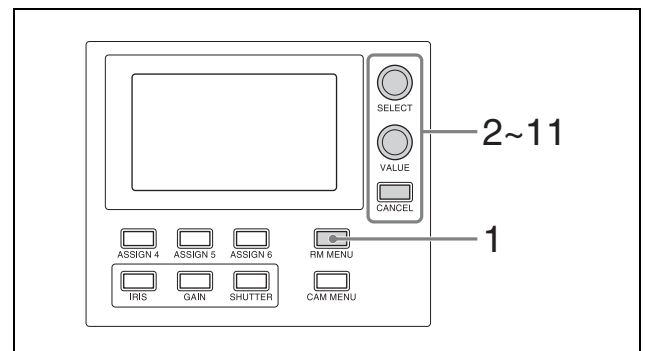


Assigning cameras (page 17)

- Assignment using AUTO IP SETUP >SETUP IP (page 17)
- Assignment using AUTO IP SETUP >ASSIGN CAM (page 18)

### Setting the IP address of the unit

Before connection, set the IP address of the unit. The setting is configured using CONFIG >LAN in the RM menu.



- 1** Press the RM MENU button, turning it on (button is lit yellow).  
The RM menu top menu appears.
- 2** Turn the SELECT knob to move the cursor to CONFIG.
- 3** Press the SELECT button.  
The CONFIG menu appears.
- 4** Turn the SELECT knob to move the cursor to LAN, and press the SELECT button.

The LAN menu appears.

```
<LAN>
→IP: 192. 168. 0. 10
SM: 255. 255. 255. 0
GW: 0. 0. 0. 0
APPLY      : NOT EXEC

MAC: xx-xx-xx-xx-xx-xx
```

The MAC address is displayed at the bottom.

Upon rebooting, the IP address setting is completed.

- 5** Turn the SELECT knob to move the cursor to IP.
- 6** Set the IP address using the SELECT knob and VALUE knob/button.  
The default setting is 192.168.0.10.
  - ① Turn the SELECT knob clockwise to move the cursor to the first three digits (for example, 192).  
IP:→192. 168. 0. 10
  - ② Turn the VALUE knob to set the value.  
Turning clockwise increases the value, and turning counterclockwise decreases the value.
  - ③ Turn the SELECT knob to move to the next number and repeat step ② to set the other numbers.
- 7** Set SM (subnet mask) and GW (default gateway address) in the same way as described in steps **5** and **6**.
- 8** When finished making all settings, move the cursor to APPLY.
- 9** Turn the VALUE knob to change NOT EXEC to EXEC, then press the VALUE button.  
The following message appears, prompting you to reboot the unit.

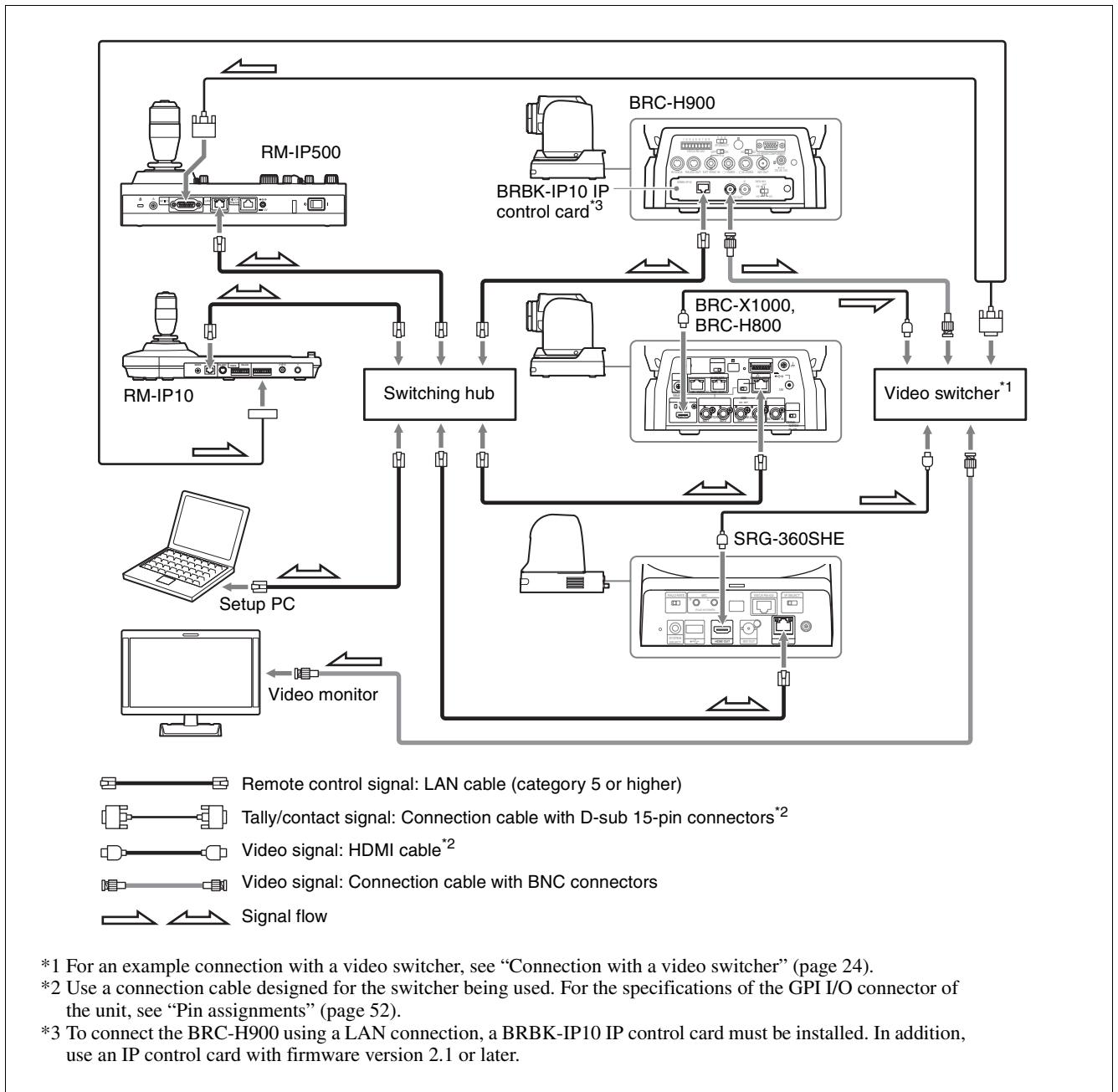
```
<CONFIRM EXECUTION>
→CONFIRM      : NO

REBOOT SYSTEM
AFTER CONFIRMATION
```

- 10** Turn the SELECT knob to move the cursor to CONFIRM.
- 11** Turn the VALUE knob to change NO to YES, then press the VALUE button.  
The unit reboots automatically.

# Connecting remote controllers, cameras, and setup PC using LAN connection

## Connection example



- 1 Connect the LAN connector of the units and LAN connector of the cameras using LAN cables. You can connect up to 100 cameras and five remote controllers on the same network.
  - 2 To configure setting of the unit and cameras using setup software, connect a PC to the same network.
    - Use shielded-type LAN cables to prevent malfunction that may result from radiation noise.
    - Use a LAN cable (category 5 or higher).
- Connect the cameras, remote controllers, and PC via switching hubs (10BASE-T or 100BASE-TX). Use on a network with significant packet loss or delay may cause a malfunction. Use a high-quality network.
  - Do not mix 10BASE-T and 100BASE-TX in the network.
  - The IP address of the unit is set to 192.168.0.10, and the IP address of a camera and BRBK-IP10



IP control card is set to 192.168.0.100 by factory default.

- Connecting stackable switching hubs in up to 2-tier configuration is recommended to avoid network delay.

#### Notes

- Do not connect more than 100 cameras, five remote controllers, and one setup PC across all networks, even if controlling a camera that is on a network of a different segment via a router. If you connect more devices than this, problems may occur, such as control delays or cameras are operated incorrectly due to IP address duplication.
- If you perform the setup from multiple PCs, the settings may not be made correctly. Perform the setup from one PC.
- Set the setup PC so that only the network that you use is enabled.
- Do not connect cameras and remote controllers to a public network.

- 3 Connect the cameras and remote controllers to AC outlets using AC adapters and AC power cords. The cameras pan/tilt automatically when power is turned on.

## Assigning cameras

Link the camera numbers, used for operating cameras from the unit, with the cameras on the network. This is called camera assignment.

A list of the assigned cameras is saved in the unit as a camera table.

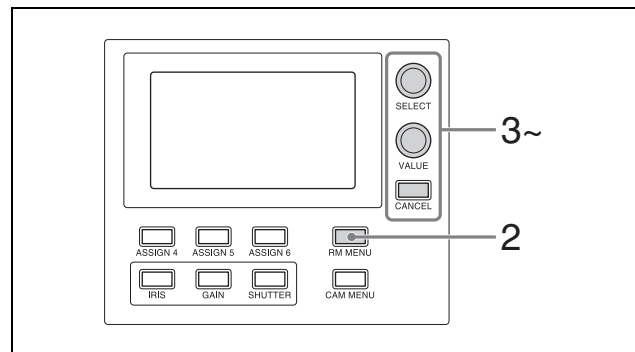
Camera numbers are sequential in each group, and are selected using the GROUP buttons and CAMERA number buttons of the camera selection block.

Camera assignments are performed using AUTO IP SETUP > SETUP IP or AUTO IP SETUP > ASSIGN CAM in the RM menu.

#### Note

Only cameras that are on the same segment as the remote controller can be assigned using AUTO IP SETUP.

Use the setup software to assign cameras on different segments.



- 1 Check that the assigned camera is connected to the network, and that the camera power is turned on.
- 2 Press the RM MENU button, turning it on (button is lit yellow). The RM menu top menu appears.
- 3 Turn the SELECT knob to move the cursor to AUTO IP SETUP.
- 4 Press the SELECT button. The AUTO IP SETUP menu appears.
- 5 Turn the SELECT knob to select SETUP IP or ASSIGN CAM, and press the SELECT button. Select one of the following methods, depending on the type of camera assignment.
  - For connections on a new network: “Assignment using AUTO IP SETUP > SETUP IP” (page 17)
  - For adding an assignment to an existing network: “Assignment using AUTO IP SETUP > ASSIGN CAM” (page 18)

### Assignment using AUTO IP SETUP > SETUP IP

This method detects cameras on the network, and automatically assigns the IP address setting and camera number for unregistered cameras. Use this method when constructing a new network. With this method, you specify the range of IP addresses assigned to cameras by entering the start address in [FROM] and the end address in [TO]. Set the range of IP addresses for assignment so that they are in the same segment as the remote controller.

#### Note

The same IP address as a remote controller cannot be set.

The subnet mask (SM) and gateway address (GW) of the camera are assigned the same settings as the remote controller.

```

<SETUP IP>
[FROM]
IP:→192. 168. 0. 100
[TO]
IP: 192. 168. 0. 199
SETUP IP : NOT EXEC

```

- ① Turn the SELECT knob to move the cursor to IP under [FROM].
- ② Set the start value of the IP addresses to assign to newly registered cameras.  
Turn the SELECT knob clockwise to move the cursor to the first three digits (for example, 192).  
IP: →192. 168. 0. 100
- ③ Turn the VALUE knob to set the value.  
Turning clockwise increases the value, and turning counterclockwise decreases the value.
- ④ Turn the SELECT knob to move to the next number and repeat step ③ to set the other numbers.
- ⑤ Turn the SELECT knob to move the cursor to IP under [TO].
- ⑥ Set the end value of the IP addresses to assign to newly registered cameras.  
Turn the SELECT knob clockwise to move the cursor to the first three digits (for example, 192).  
IP:→192. 168. 0. 199
- ⑦ Turn the VALUE knob to set the value.  
Turning clockwise increases the value, and turning counterclockwise decreases the value.
- ⑧ Turn the SELECT knob to move to the next number and repeat step ⑦ to set the other numbers.
- ⑨ When finished making all settings, turn the SELECT knob to move the cursor to SETUP IP.
- ⑩ Turn the VALUE knob to change NOT EXEC to EXEC, then press the VALUE button.  
A confirmation message appears.

```

<CONFIRM EXECUTION>
→CONFIRM : NO

COMPLETE DONE

```

- ⑪ Turn the VALUE knob to change NO to YES, then press the VALUE button.

- ⑫ Check the camera assignment result using AUTO IP SETUP >CAMERA TABLE in the RM menu.  
For details about displaying CAMERA TABLE, see “To check the camera table” (page 20).

### Assignment using AUTO IP SETUP >ASSIGN CAM

This method is used to assign camera numbers to cameras that already have a configured IP address. With this method, you can specify the group number and camera number of the camera selection button from which to start assignments. For details about the group number and camera number, see “Selecting a Camera” (page 27).

#### Note

Only cameras within the same segment can be assigned.

```

<ASSIGN CAM>
[FROM]
→GROUP NUM : 01
CAMERA NUM : 01
KEEP IP : NOT EXEC

```

- ① Turn the SELECT knob to move the cursor to GROUP NUM.  
Set the group number for which to begin assignment.
- ② Turn the VALUE knob to set the value.  
Turning clockwise increases the value, and turning counterclockwise decreases the value.
- ③ Turn the SELECT knob to move the cursor to CAMERA NUM.  
Set the camera number for which to begin assignment.
- ④ Turn the VALUE knob to set the value.  
Turning clockwise increases the value, and turning counterclockwise decreases the value.
- ⑤ When finished making all settings, turn the SELECT knob to move the cursor to KEEP IP.
- ⑥ Turn the VALUE knob to change NOT EXEC to EXEC, then press the VALUE button.  
A confirmation message appears.



**9** Turn the SELECT knob to move the cursor to SWAP A<=>B.

→SWAP A<=>B : NOT EXEC

**10** Turn the VALUE knob to change NOT EXEC to EXEC, then press the VALUE button.  
A confirmation message appears.

```

<CONFIRM EXECUTION>
→CONFIRM      : NO

                COMPLETE DONE
  
```

**11** Turn the VALUE knob to change NO to YES, then press the VALUE button.

**12** Check the result using AUTO IP SETUP  
>CAMERA TABLE in the RM menu.

### To check the camera table

You can check all the camera information in the camera table.

- 1** Press the RM MENU button, turning it on (button is lit yellow).  
The RM menu top menu appears.
- 2** Turn the SELECT knob to move the cursor to AUTO IP SETUP.
- 3** Press the SELECT button.  
The AUTO IP SETUP menu appears.
- 4** Turn the SELECT knob to select CAMERA TABLE, and press the SELECT button.  
The CAMERA TABLE menu appears.  
The camera information for cameras 1 to 5 in group 1 are displayed on the screen.  
You can check the camera information for other cameras not displayed by turning the VALUE knob.

```

→GROUP NUM   : 01-LOWER
                |
                | LOWER or UPPER
                |
                | Group number
  
```

The camera information for cameras 01 to 05 in a group are displayed when LOWER is selected.  
The camera information for cameras 06 to 10 in a group are displayed when UPPER is selected.

### LOWER display

```

<CAMERA TABLE>
→GROUP NUM   : 01-LOWER
CAM INFO     : IP ADD
01:192.168.  0.100
02:192.168.  0.101
03:192.168.  0.102
04:192.168.  0.103
05:192.168.  0.104
  
```

### UPPER display

```

<CAMERA TABLE>
→GROUP NUM   : 01-UPPER
CAM INFO     : IP ADD
06:192.168.  0.105
07:192.168.  0.106
08:192.168.  0.107
09:192.168.  0.108
10:192.168.  0.109
  
```

You can turn the SELECT knob to move the cursor to CAM INFO, then turn the VALUE knob to switch the camera information between IP ADD and MAC ADD display.

```

→CAM INFO    : IP ADD
                |
                | IP ADD or MAC ADD
  
```

In IP ADD display, the IP addresses of the cameras are displayed.

In MAC ADD display, the MAC addresses of the cameras are displayed.

### MAC address display

```

<CAMERA TABLE>
→GROUP NUM   : 01-LOWER
CAM INFO     : MAC ADD
01:xx-xx-xx-xx-xx-xx
02:xx-xx-xx-xx-xx-xx
03:xx-xx-xx-xx-xx-xx
04:xx-xx-xx-xx-xx-xx
05:xx-xx-xx-xx-xx-xx
  
```

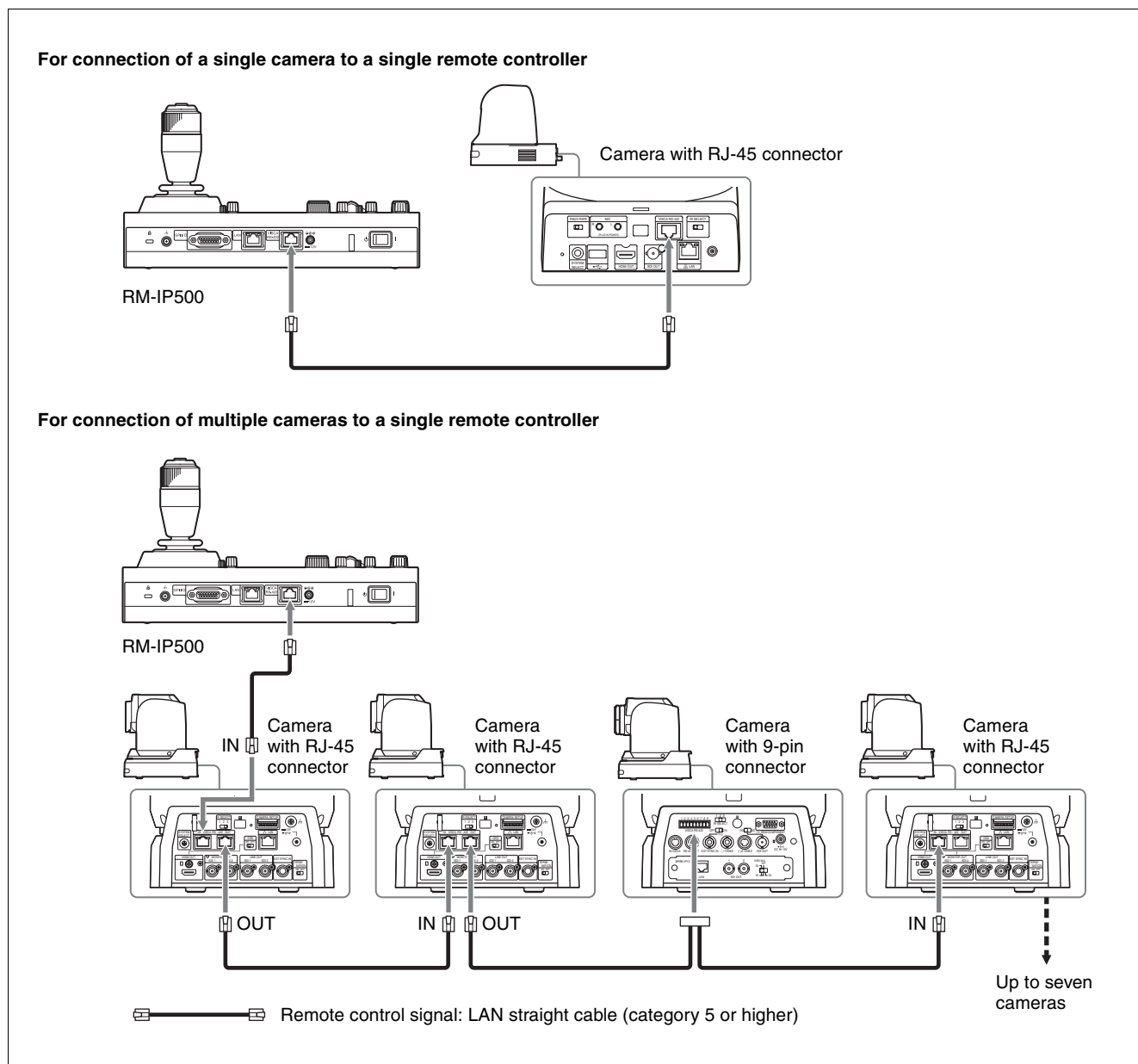
## VISCA RS-422 (serial) connection

You can connect multiple cameras in a serial connection using the VISCA RS-422 connectors. In a serial connection, a remote controller can control up to seven cameras. These cables support connection at distances of up to 1.2 km (3,937 feet).

Use a LAN straight cable for RS-422 connection using the RJ-45 connector.

### Connecting remote controllers and cameras using serial connection

#### Connection example

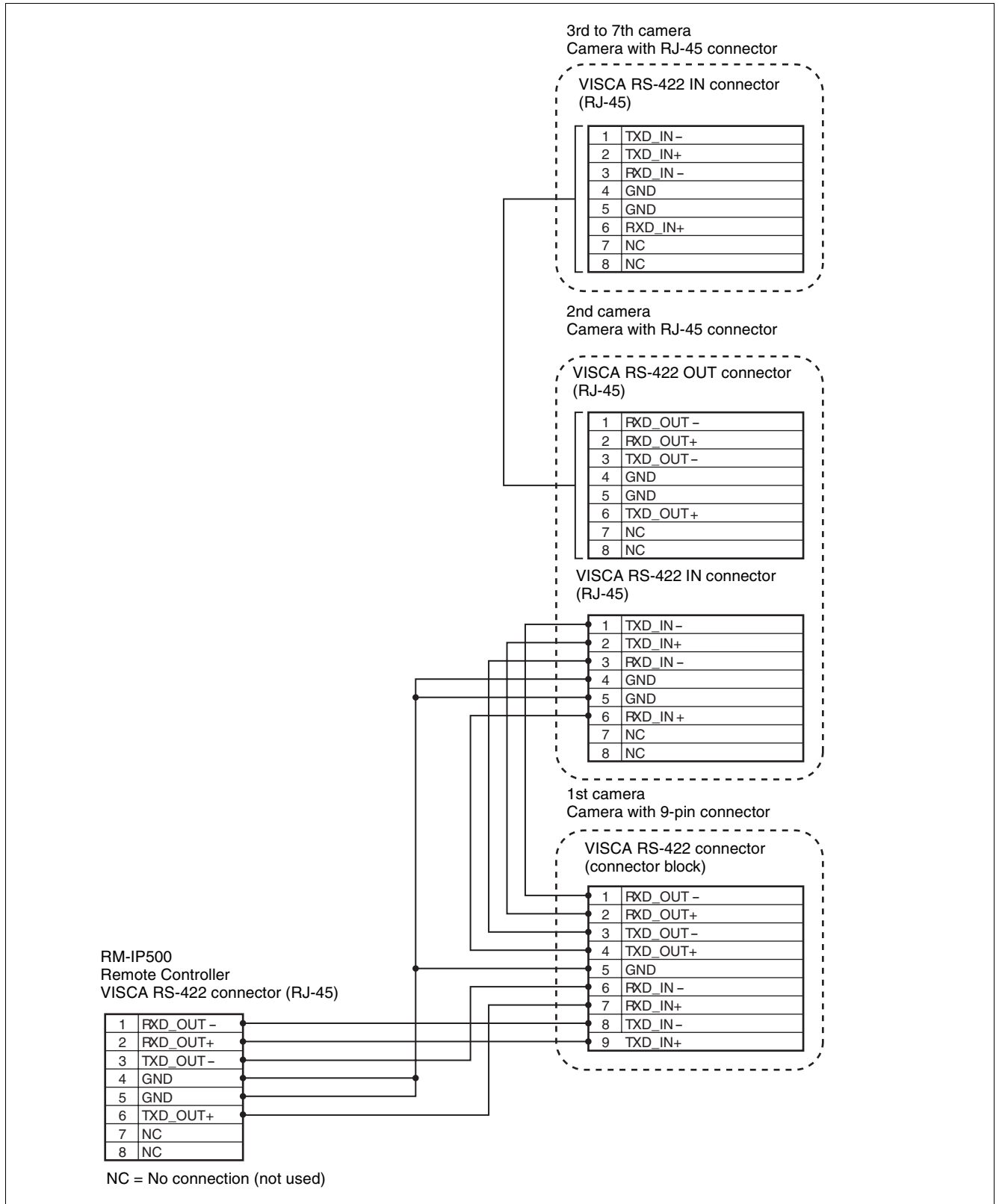


#### Note

When connecting an SRG-360SHE in a serial connection, only one SRG-360SHE camera can be connected to a single remote controller.

To connect multiple SRG-360SHE cameras or to mix with other model cameras, use the connection described in “VISCA over IP (LAN) connection” (page 14).

# VISCA RS-422 connection diagram example

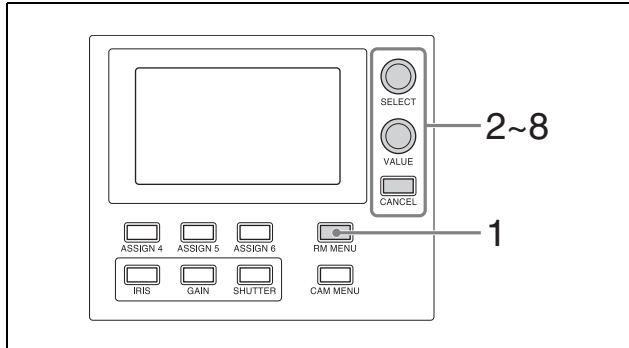


## Configuring a serial connection

After cameras are connected correctly, select serial connection using CONFIG >SERIAL in the RM menu, set the baud rate, and assign camera addresses.

### Note

If a connected camera is changed after completing the configuration, the cameras must be configured again.



- 1** Press the RM MENU button, turning it on (button is lit yellow).  
The RM menu top menu appears.
- 2** Turn the SELECT knob to move the cursor to CONFIG.
- 3** Press the SELECT button.  
The CONFIG menu appears.
- 4** Turn the SELECT knob to move the cursor to SERIAL, and press the SELECT button.  
The SERIAL menu appears.

Set the baud rate, as required.  
Turn the SELECT knob to move the cursor to BAUD RATE, turn the VALUE knob, and select 9600 or 38400.  
The default setting is 9600.

- 5** Turn the SELECT knob to move the cursor to APPLY.

```
<SERIAL>
BAUD RATE : 9600
->APPLY   : NOT EXEC
```

- 6** Turn the VALUE knob to change NOT EXEC to EXEC, then press the VALUE button.  
The following message appears after changing the connection method from LAN connection to serial

connection or changing the baud rate, prompting you to reboot the unit.

```
<CONFIRM EXECUTION>
->CONFIRM   : NO

REBOOT SYSTEM
AFTER CONFIRMATION
```

- 7** Turn the SELECT knob to move the cursor to CONFIRM.
- 8** Turn the VALUE knob to change NO to YES, then press the VALUE button.  
The unit reboots automatically.

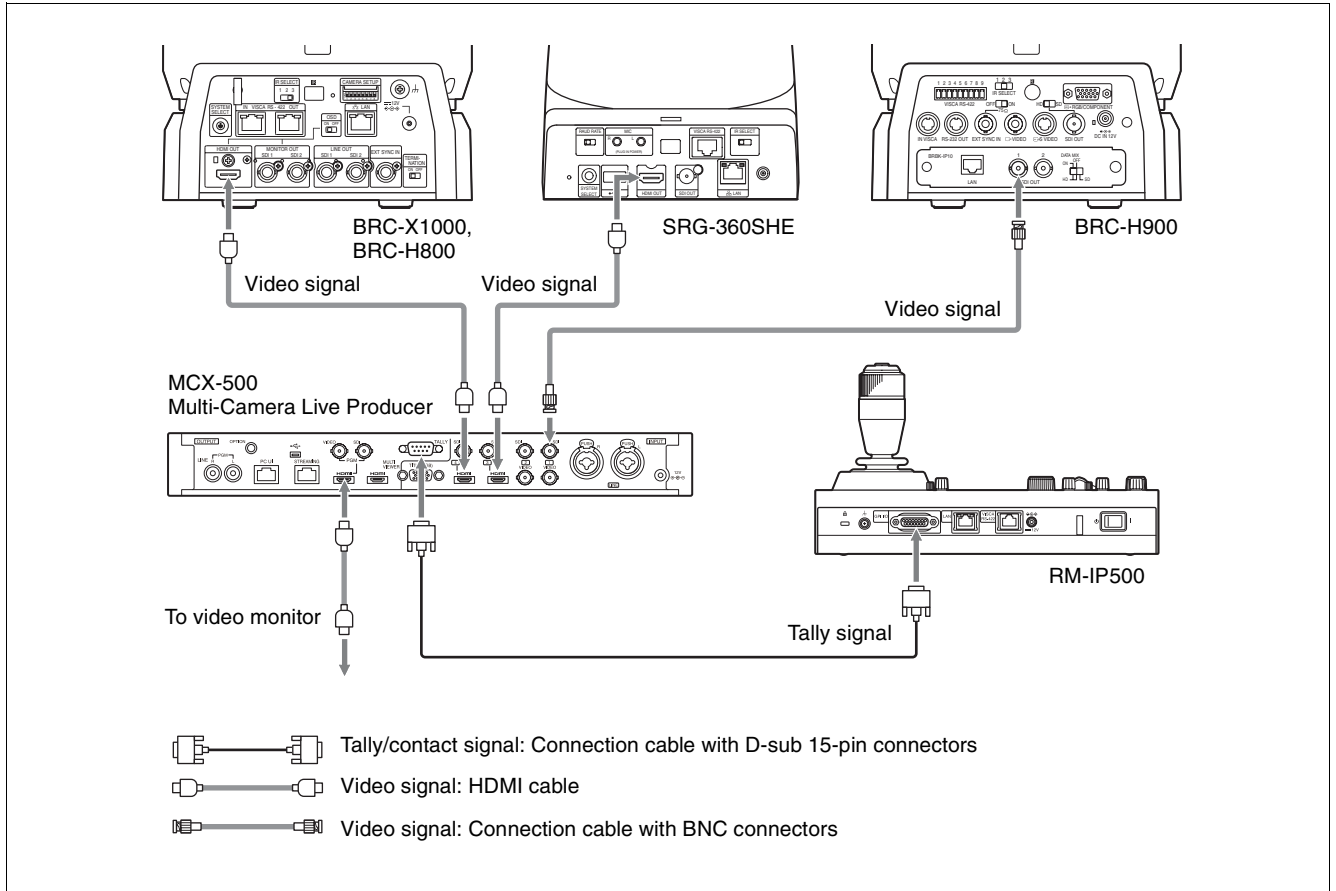
Upon rebooting, the serial connection setting is completed.

## Connection with a video switcher

By connecting the tally output of a video switcher to the GPI I/O connector of the unit, the tally lamps of the unit light up in unison with the switcher operation which you can use to switch the target camera to control.

The following diagram shows the connection with an MCX-500 Multi-Camera Live Producer as an example.

### Connection example





---

# Using a Setup PC

When the unit is connected with cameras by LAN connection, you can save the settings saved on the unit to a setup PC by connecting the PC to the network. The configuration data saved on the PC can be used to recover settings if a failure occurs or can be used to configure another remote controller.

## Saved configuration data

- Settings saved on the unit
- Camera table
- Control panel status

For details about connecting the setup PC to a network, see “Connecting remote controllers, cameras, and setup PC using LAN connection” (page 16).

## System requirements for the setup PC

The following operating environment is required for the PC on which to install the setup software (as of March, 2017).

- CPU: Intel Core2 Duo 2.4 GHz or higher (recommended)
- Memory: 1 GB or more (recommended)
- Hard disk: More than 50 MB free space
- OS: Microsoft Windows 7, Windows 8.1 Pro, Windows 10 Pro 32-bit or 64-bit version
- Web browser: Windows Internet Explorer Ver. 11.0

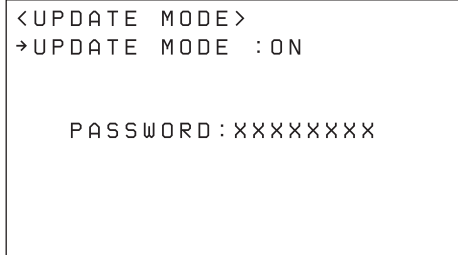
---

## Accessing a remote controller

To access the unit from the setup PC, perform the following procedure beforehand using the RM menu.

- 1** Press the RM MENU button, turning it on (button is lit yellow).  
The RM menu top menu appears.
- 2** Turn the SELECT knob to move the cursor to MAINTENANCE.
- 3** Press the SELECT button.  
The MAINTENANCE menu appears.
- 4** Turn the SELECT knob to move the cursor to UPDATE MODE.
- 5** Press the SELECT button.  
The UPDATE MODE setup screen appears.
- 6** Turn the VALUE knob to change OFF to ON, then press the VALUE button.

The buttons and LED indicators start blinking, and a one-time password for accessing the unit from a web browser is displayed on the LCD panel.



## Notes

- The one-time password will become invalid if the unit is rebooted or UPDATE MODE is set to OFF. In this case, acquire another one-time password.
- To return to normal operating mode after setting UPDATE MODE to ON, set UPDATE MODE to OFF and then press the CANCEL button.

- 7** Access the URL of the target IP controller using a web browser on the PC.  
`http://<IP address of unit>:52382/backup/`

The Windows authentication dialog appears.

- 8** Enter the user name and password in the Windows authentication dialog.
  - User name: RM\_IP\_USER
  - Password: (One-time password obtained by the UPDATE MODE setting.)

- 9** Click the OK button.  
The [Backup/Restore] screen appears.

---

## Saving configuration data on a PC (Backup)

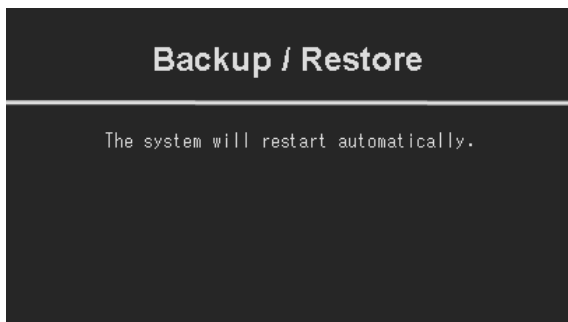
- 1** Access the URL of the remote controller whose configuration data you want to save using a web browser on the PC.  
`http://<IP address of unit>:52382/backup/`
- 2** Access the save target remote controller.  
For details about the access method, see “Accessing a remote controller” (page 25).  
The [Backup/Restore] screen appears.
- 3** Click the [Backup] button.  
The configuration data backup starts.  
The default file name of the configuration data file is `rm-ip500.cfg`.

---

## Loading a saved configuration file into the unit or another remote controller (Restore)

- 1** Access the URL of the remote controller to which you want to load configuration data using a web browser on the PC.  
http://<IP address of unit>:52382/backup/
- 2** Access the load target remote controller.  
For details about the access method, see “Accessing a remote controller” (page 25).  
  
The [Backup/Restore] screen appears.
- 3** Click the [Browse] button.  
The file selection dialog appears.
- 4** Specify the configuration data to load.
- 5** Click the [Restore] button on the [Backup/Restore] screen.  
The configuration data restore starts.

When the configuration data is restored, the following message appears and then the remote controller reboots.



---

## About the RM-IP Setup Tool

This is a software tool for configuring remote controller settings. It is used to configure the following.

- IP address settings
- Camera assignments
- Swapping camera numbers
- Checking camera tables

Install the software on the setup PC for the unit.  
The setup tool software and setup tool guide can be downloaded from the download site.  
For details, refer to the “RM-IP Setup Tool Guide.”

### Note

To use the RM-IP Setup Tool, set MAINTENANCE >UPDATE MODE to ON in the RM menu.

## Operations

Before operation, make sure that cameras, the unit, and peripheral devices are installed and connected correctly.

## Turning on the Power

- 1 Turn on the camera(s).
- 2 Set the power switch on the rear of the unit to the I (on) position.

### Note

When the unit is mounted in a console desk, turn the power on/off using the main power supply of the console desk.

When the unit is first turned on, all the buttons on the control panel light up and then turn off. Next, the buttons that were selected when the unit was last turned off light up. The CAMERA 1 button is lit yellow the first time the unit is turned on. When using a LAN connection, the camera group number that was selected when the unit was last turned off is displayed in the group number display.

- 3 Turn on the peripheral devices.

### Notes

- Be sure to turn on the power of the cameras before the power of this unit. Otherwise, the unit cannot recognize the connected cameras.
- Do not touch the joystick or ZOOM lever when turning on the power of the unit. Touching the joystick or ZOOM lever may affect the calibration of the origin point.

### To turn the unit off

To turn the unit off to change connection or perform maintenance, use the reverse procedure of turning the unit on.

### To turn the cameras on/off (standby) using the unit

If power is supplied to a camera, you can turn the camera on/off (standby) using the CAM POWER button of the color adjustment block.

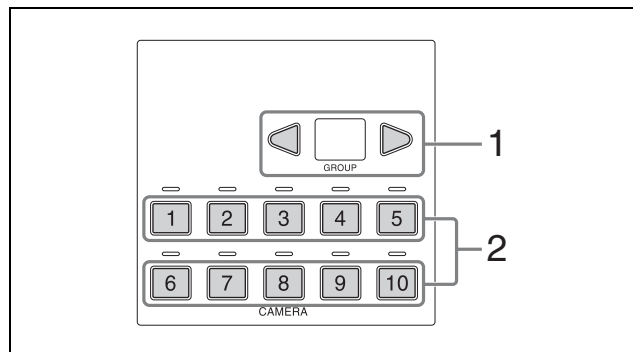
- Select the camera that you want to turn on/off (standby), and press the CAM POWER button. When the camera turns on, the CAM POWER button lights

up. When the camera is off (standby), the button is not lit.

- You can turn all cameras registered in the camera table on/off (standby) at the same time by setting CONFIG >CAM POWER to ALL in the RM menu and pressing the CAM POWER button.

## Selecting a Camera

Assign camera numbers to the cameras, and then select a camera number on the camera selection block when you want to control the corresponding camera.



The number of camera numbers that can be assigned to control varies depending on the use of LAN connection or serial connection. The method of selecting the camera number also is different.

### Selecting a camera when using LAN connection

For LAN connection, ten camera numbers are assignable in camera groups 1 to 10, supporting assignment of up to 100 cameras.

- 1 Select the camera group to which the target camera belongs using the GROUP LEFT button and GROUP RIGHT button. You can select from group 1 to 10. The number of the selected group is displayed in the group number display. After switching the group number, the CAMERA 1 button is selected in the group.
- 2 Press the number of the CAMERA button to select. The selected button lights in yellow. For example, select group 2 and press the CAMERA 5 button to select the 15th camera.

---

## Selecting a camera when using serial connection

You can select a camera number using the CAMERA 1 to CAMERA 7 buttons.

The pressed CAMERA button lights in yellow, and the camera assigned with the same camera number as the button becomes the target camera.

For serial connection, up to camera number 7 can be assigned.

In a serial connection, groups are not used, hence the group buttons do not light up.

---

## About the color of camera buttons

The camera number button for the selected camera is lit yellow.

When a camera is turned on or is in standby mode, the camera number buttons for cameras that can be operated are lit blue.

---

## About the tally lamp indicators

When the GPI I/O connector of the unit is configured as an input, you can connect the tally output of an external device to the unit to display tally lamps (ON AIR TALLY mode), or switch the target camera in response to the operation of the external device (NORMAL TALLY mode).

- 1 Set CONFIG >GPI I/O >SETTING to INPUT in the RM menu.
- 2 Set CONFIG >GPI I/O >TALLY MODE in the RM menu.
  - When set to NORMAL, normal tally mode is selected. The target camera of the unit is switched in response to the tally output of the external device, and the corresponding tally input lamp lights up.

You can also display the tally lamp on the corresponding camera.  
For details, see “TALLY MODE” (page 47).

### Note

If the tally input changes while NORMAL is selected, the target camera will change as follows.

Tally input change	Target camera
No tally input	The CAMERA 1 to CAMERA 10 buttons for all target cameras can be selected.
Change from no tally input to tally input received	The camera corresponding to the tally input number automatically becomes the target camera. If multiple numbers are input, the camera with the lowest number becomes the target camera.
Tally input continues	If there is only one tally input number, the target camera cannot be changed. If there are multiple tally input numbers, you can select one of them to become the target camera.
Change from tally input to no tally input	The current target camera does not change.

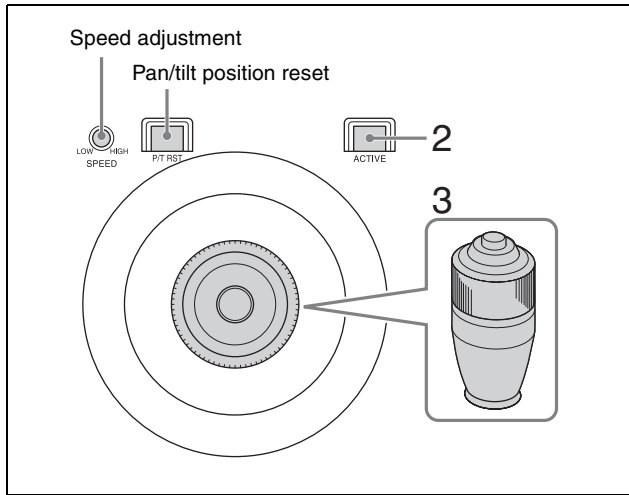
- When set to ON AIR, on-air tally mode is selected. The tally output of the camera selected by the external device is displayed by the corresponding tally input lamp of the unit. Note that the target camera cannot be switched in conjunction with the tally input, but must be switched using the camera buttons on the unit. The tally lamp on the corresponding camera can also be set to light up in response to the tally input. For details, see “CAMERA LINK” (page 47).

When the GPI I/O connector is used as a contact output connector, the number of the target camera is sent to the connected external device.

When CONFIG >GPI I/O >SETTING is set to OUTPUT in the RM menu, the camera number of the selected camera is output to the external device. You can also display the tally lamp on the camera selected on the unit. For details, see “CAMERA LINK” (page 47).

# Operating a Camera

## Pan and tilt control



- 1** Select the target camera to control.  
For details about selection, see “Selecting a Camera” (page 27).
- 2** Press the ACTIVE button, turning it on (button is lit), on the joystick control block.
- 3** Operate the joystick to pan or tilt the camera.  
While checking the picture on the screen, incline the joystick in the desired direction.  
The panning/tilting speed changes according to the angle at which you incline the joystick.  
Return the joystick to the center position to stop pan/tilt operation.

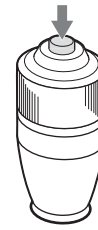
### To adjust the pan/tilt speed

You can adjust the pan/tilt speed, obtained when you incline the joystick at the maximum angle, and the change in speed in response to the angle of inclination.

Turning the PAN-TILT SPEED knob clockwise increases the speed, and turning counterclockwise decreases the speed.

### To face the camera toward the front (pan/tilt position reset)

Press and hold the button on the joystick.




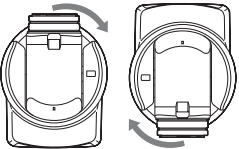

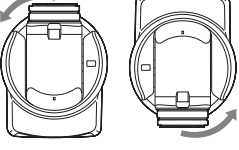
### If you accidentally move the camera head with your hand

Press the P/T RST (pan/tilt reset) button to reset the pan/tilt position.

### If the camera moves in a different direction than the joystick

By default, the camera pans to the right whenever the joystick is inclined to the right. If you want the camera to face toward the opposite direction, for example, when changing the direction of the camera while checking the picture on a screen, you can change the orientation using CONFIG >DIRECTION in the RM menu.

For details about configuration, see “DIRECTION” (page 46).

Joystick	Movement of the camera	CONFIG >DIRECTION setting
Incline to the right 		Pan operation: Set JOYSTICK PAN to STANDARD. Tilt operation: Set JOYSTICK TILT to STANDARD.
Incline to the right 		Pan operation: Set JOYSTICK PAN to REVERSE. Tilt operation: Set JOYSTICK TILT to REVERSE.

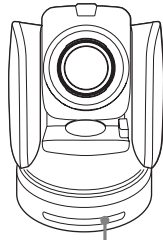
#### Note

The setting above only changes the control signal from the unit, and does not change the setting of the camera itself.

### If the STANDBY lamp of the camera blinks

When the camera is moved or turned by hand or by external force, the camera system may not be able to memorize the pan/tilt position properly.

In this case, press the P/T RST (pan/tilt reset) button to reset the pan/tilt position.



STANDBY blinks.

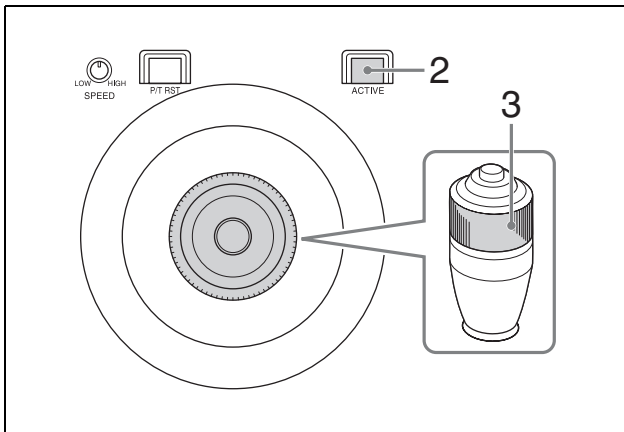
## Zoom control

The camera zoom can be operated using either the ZOOM ring on the top of the joystick or the ZOOM lever in the lens control block.

You can set which is used to control the zoom using CONFIG >RM SETUP >ZOOM in the RM menu. For details about configuration, see “RM SETUP” (page 46).

You can adjust the zoom speed using the ZOOM SPEED knob on the lens control block.

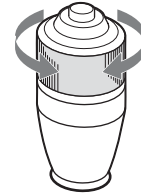
### To control the zoom using the ZOOM ring on the top of the joystick



- 1** Select the target camera to control. For details about selection, see “Selecting a Camera” (page 27).
- 2** Press the ACTIVE button, turning it on (button is lit), on the joystick control block.
- 3** Turn the ZOOM ring on the top of the joystick counterclockwise/clockwise.

Release the joystick to stop zooming.

Subject appears smaller.  
(Wide angle)

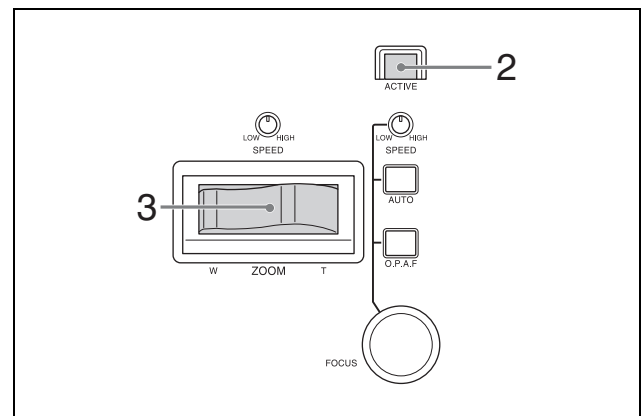


Subject appears larger.  
(Telephoto)

### Note

When you perform pan/tilt operation while the camera is in telephoto mode, the speed of movement of the image may appear erratic.

### To control the zoom using the ZOOM lever on the lens control block

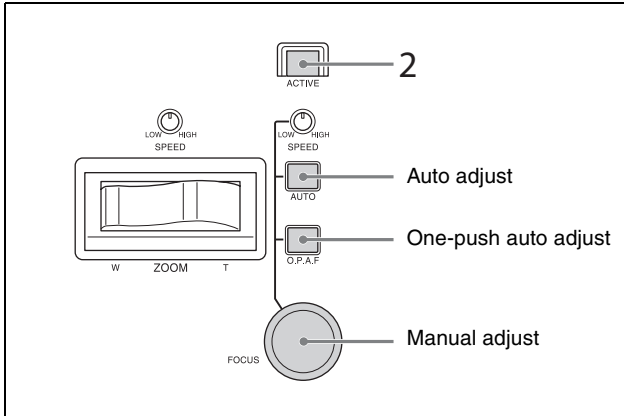


- 1** Select the target camera to control. For details about selection, see “Selecting a Camera” (page 27).
- 2** Press the ACTIVE button, turning it on (button is lit), on the lens control block.
- 3** Move the ZOOM lever left/right. Moving the lever to the left makes the subject appear smaller (Wide angle). Moving the lever to the right makes the subject appear larger (Telephoto). The zoom speed changes depending on the pressure applied to the lever and the setting of the ZOOM SPEED knob. Turning the ZOOM SPEED knob clockwise increases the zoom speed, and turning counterclockwise decreases the zoom speed. You can change the orientation of the zoom lever using CONFIG >DIRECTION in the RM menu (page 46).

# Adjusting a Camera

The functions that can be operated vary depending on the camera model and configuration. For details, see “Function of Buttons/Knobs in Each Block by Camera Model” (page 41).

## Adjusting the focus



**1** Select the target camera to control.  
For details about selection, see “Selecting a Camera” (page 27).

**2** Press the ACTIVE button, turning it on (button is lit), on the lens control block.  
The lens control block becomes enabled.

### To adjust the focus automatically

Press the AUTO FOCUS mode button, turning it on (button is lit yellow).

Auto focus mode is activated.

In auto focus mode, the camera focuses on the subject in the center of the screen automatically.

### To adjust the focus manually

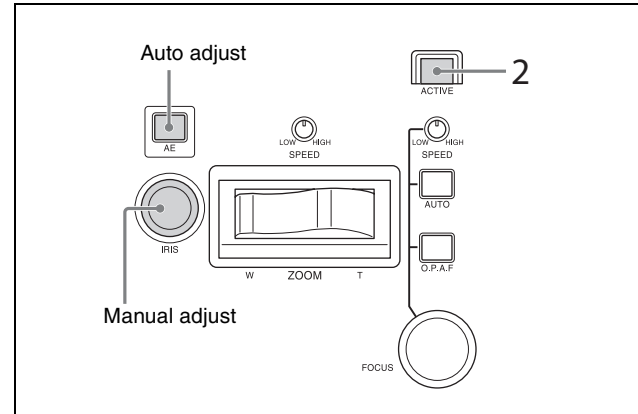
Press the AUTO FOCUS mode button, turning it off (button is not lit). Turn the FOCUS knob counterclockwise/clockwise to adjust the focus while monitoring the image of the subject.

The focus speed is set using the FOCUS SPEED knob. Turning the knob clockwise increases the focus speed, and turning counterclockwise decreases the focus speed.

### One-push auto focus during manual focus adjustment

Press the O.P.A.F (one-push auto focus) button. The button blinks yellow for a few seconds, and then the camera focuses on the subject in the center of the screen automatically.

## Adjusting the brightness



**1** Select the target camera to control.  
For details about selection, see “Selecting a Camera” (page 27).

**2** Press the ACTIVE button, turning it on (button is lit), on the lens control block.

### To adjust the exposure automatically

Press the AE button, turning it on (button is lit).

### To adjust the exposure manually

**1** Set CONFIG >RM SETUP >AE CONFIG to MANUAL or IRIS Pri in the RM menu.  
For details about AE CONFIG, see “AE CONFIG” (page 46).

**2** Press the AE button, turning it off (button is not lit).

**3** Turn the IRIS knob to adjust the iris of the camera.

### Operation using IRIS, GAIN, and SHUTTER buttons

**1** Set CONFIG >RM SETUP >AE CONFIG to MANUAL, IRIS Pri, GAIN Pri, or SHUTTER Pri in the RM menu.  
For details about AE CONFIG, see “AE CONFIG” (page 46).

**2** Press the AE button, turning it off (button is not lit).

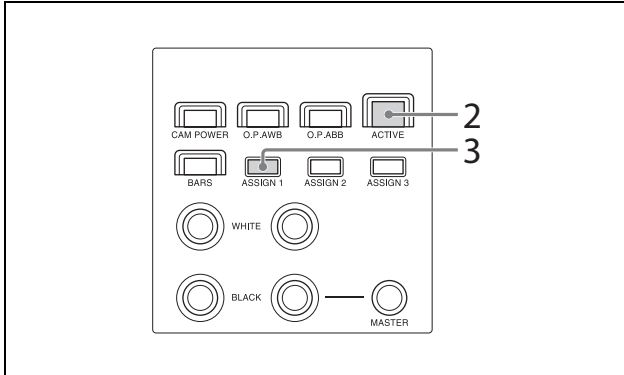
**3** Press the IRIS, GAIN, or SHUTTER button on the menu control block.

The setting is displayed on the LCD panel and can be adjusted using the VALUE knob (FUNCTION menu).

For details about the FUNCTION menu, see “Setting Specific Functions using Shortcuts (FUNCTION Menu)” (page 37).

## Backlight compensation

Use the following procedure to compensate for backlighting if the subject appears dark due to a light source behind the subject.



Backlight compensation functions when AE mode is enabled (AE button is lit).

- 1 Select the target camera to control.  
For details about selection, see “Selecting a Camera” (page 27).
- 2 Press the ACTIVE button, turning it on (button is lit), on the color adjustment block.
- 3 Press the ASSIGN 1 button.

### To cancel backlight compensation

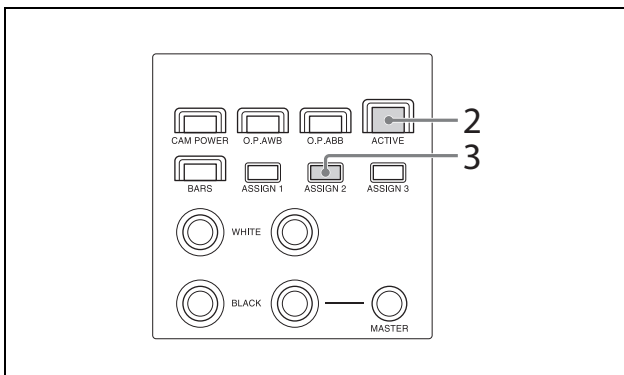
Press the ASSIGN 1 button, turning it off (button is not lit).

#### Note

On the BRC-H900, to turn the AE button off, also turn ASSIGN 1 (backlight compensation) off.

## Flicker compensation

Use the following procedure if there is any flicker in the image of the subject due to the effects of fluorescent lighting or other light sources.



- 1 Select the target camera to control.  
For details about selection, see “Selecting a Camera” (page 27).
- 2 Press the ACTIVE button, turning it on (button is lit), on the color adjustment block.
- 3 Press the ASSIGN 2 button.

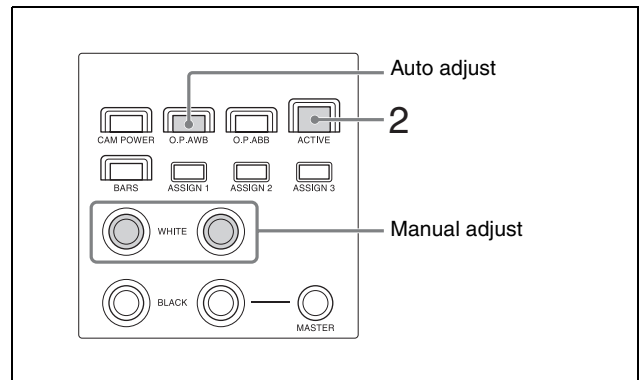
### To cancel flicker compensation

Press the ASSIGN 2 button, turning it off (button is not lit).

## Adjusting the white balance

Position a white object under the same lighting conditions as the subject you want to shoot, and zoom in on it on the screen. (You can use a white wall or other object.)

The white balance is adjusted against the white object.



- 1 Select the target camera to control.  
For details about selection, see “Selecting a Camera” (page 27).
- 2 Press the ACTIVE button, turning it on (button is lit), on the color adjustment block.

### To adjust the white balance automatically

- 1 Set OPERATION >WHITE >WB MODE in the RM menu.  
For details about settings, see “WB MODE” (page 44).
  - Setting to AUTO1 or AUTO2 automatically adjusts the white balance according to the corresponding setting.
  - Setting to ONE PUSH enables the O.P.AWB (one-push auto white balance) button.
- 2 If ONE PUSH is selected in step 1, press the O.P.AWB (one-push auto white balance) button. The button blinks red for a few seconds, and then the camera white balance is adjusted automatically.



## To adjust the white balance manually

- 1 Set OPERATION >WHITE >WB MODE to MANUAL in the RM menu.  
For details about settings, see “WHITE” (page 43).
- 2 Adjust the white balance using the R-WHITE knob and B-WHITE knob.  
Adjust the red gain using the R-WHITE knob, and the blue gain using the B-WHITE knob.  
Turning the knob counterclockwise decreases the red/blue hue, and turning clockwise increases the red/blue hue.

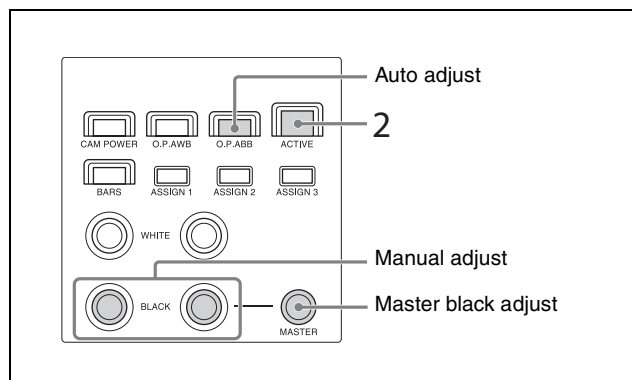
---

## Adjusting the black balance

Adjust the black balance when you use a camera for the first time or after a long time of non-use, or if the ambient temperature of the camera has changed significantly.

### Note

Check that OPERATION >BLACK >ABB MODE is set to ON in the RM menu. The black balance function cannot be executed if ABB MODE is set to OFF.



- 1 Select the target camera to control.  
For details about selection, see “Selecting a Camera” (page 27).
- 2 Press the ACTIVE button, turning it on (button is lit), on the color adjustment block.
- 3 Adjust the black balance automatically or manually.

## To adjust the black balance automatically

- 1 Set OPERATION >BLACK >ABB MODE to ON in the RM menu.
- 2 Press the O.P.ABB (one-push auto black balance) button.

The button blinks red for a few seconds, and then the camera black balance is adjusted automatically.

## To adjust the black balance manually

Adjust the black balance using the R-BLACK knob and B-BLACK knob.

Adjust the R-BLACK value using the R-BLACK knob, and the B-BLACK value using the B-BLACK knob. Turning the knob counterclockwise decreases the R-BLACK/B-BLACK value, and turning clockwise increases the R-BLACK/B-BLACK value.

## To adjust the master black

- 1 Set the M.BLACK value using OPERATION >BLACK in the RM menu.
- 2 Adjust the master black using the MASTER BLACK knob.  
Turning the knob counterclockwise decreases the master black level, and turning clockwise increases the master black level.

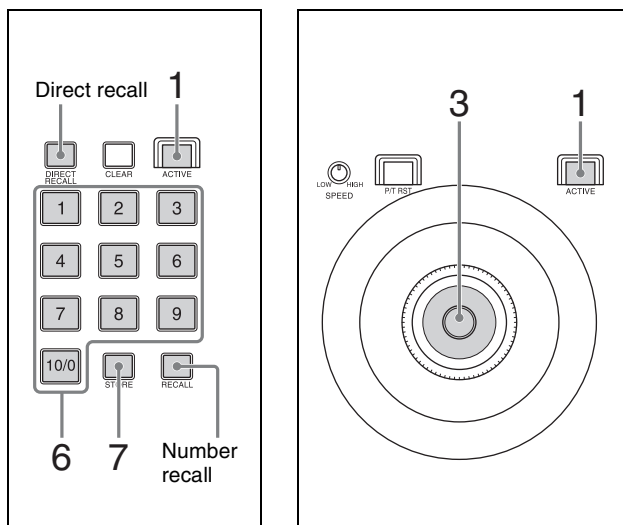
# Storing the Camera Status (Preset Function)

The camera status, comprising the camera position, zooming, focusing, backlighting compensation, flicker compensation, and white/black balance adjustments, can be stored in the memory of the camera.

You can set the speed of movement between positions for preset memory operation using OPERATION >PRESET in the RM menu. This setting is applied to all presets.

The speed of movement default setting is 24.

The number of presets varies depending on the camera. For details, refer to the specifications for the camera.



- 1 Press the ACTIVE buttons, turning them on (buttons are lit), on the joystick control block and preset memory control block.
- 2 Select the camera whose status you want to store. For details about selection, see “Selecting a Camera” (page 27).
- 3 Operate the joystick to pan/tilt the orientation of the camera.
- 4 Perform zoom, focus, backlight compensation, flicker compensation, and white/black balance adjustments, as required.
- 5 Check that the DIRECT RECALL button is off. Turn it off if it is currently turned on.
- 6 Enter the preset number you want to store. Use the PRESET 10/0 button to enter a “0” digit. Preset numbers in the range 1 to 100 can be set.

The preset number is displayed at the bottom right on the LCD panel of the menu control block.

- 7 Press and hold the STORE button. The camera status is stored in the memory of the camera. The preset number at the bottom right of the LCD panel disappears, and storing is completed when the STORE button becomes lit.

After registering a preset, we recommend that you check that the camera status is stored correctly by recalling the preset.

## Recalling stored status

There are two methods for recalling stored status: direct recall and number recall.

### Direct recall

With the DIRECT RECALL button on (button is lit yellow), press the PRESET 1 to PRESET 10/0 buttons to recall preset numbers 1 to 10.

Only preset numbers 1 to 10 can be recalled using direct recall.

### Number recall

With the DIRECT RECALL button off (button is not lit), enter the preset number using the PRESET 1 to PRESET 10/0 buttons, in the same way as when storing a preset, and then press the RECALL button.

In this method, the entered preset number is displayed at the bottom right on the LCD panel of the menu control block.

Preset numbers 1 to 100 can be recalled using number recall.

## Changing the speed of movement between positions

- 1 Check that the DIRECT RECALL button is off. Turn it off if it is currently turned on.
- 2 Select a camera, and recall the position you want to change.
- 3 Set the speed using OPERATION >PRESET >SPEED in the RM menu.
- 4 Press and hold the STORE button.

**Note**

Subsequently when a preset is stored, the speed of movement between positions changes to the value set in step **3**.

## Operating the Camera Setup Menu from the Unit (Camera Menu Operation Mode)

You can operate the setup menu on the camera using the knobs and buttons on the menu control block and the joystick.

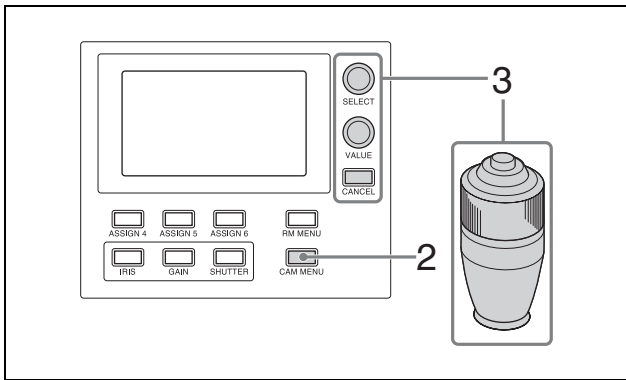
**Notes**

- In camera menu operation mode, the menu is displayed on the monitor output of the camera. Nothing is displayed on the LCD panel of the unit.
- Operation according to the camera specifications is required to save settings.

### Buttons and knobs used for camera menu operations

Operation	Buttons and knobs used
Activate camera menu mode.	Press and hold the CAM MENU button.
Select a setup menu item.	Turn the SELECT knob or tilt up/down using the joystick.
Confirm the setup menu item selection.	Press the SELECT button or the joystick button.
Select a setup menu sub item.	Turn the SELECT knob or pan left/right using the joystick.
Change the setting of the setup menu sub item.	Turn the VALUE knob or press the joystick button.
Confirm the changed setting.	
Save settings.	Saved on the camera using the camera preset memory function.*
Go back one level in the menu.	Press and hold the CAM MENU button or press the CANCEL button.

\* For details about items saved with a preset number, refer to the operating instructions of each camera.



- 1** Select the target camera to control.  
For details about selection, see “Selecting a Camera” (page 27).
- 2** Press and hold the CAM MENU button, turning it on (button is lit yellow).  
Camera menu operation mode is activated.  
The camera setup menu is displayed on the output video monitor for the camera on-screen display.
- 3** Operate the camera setup menu using the SELECT knob/button, VALUE knob, CANCEL button, and joystick.

#### **SELECT knob**

Selects menu items.

The cursor moves up/down as the SELECT knob is turned counterclockwise/clockwise.

#### **SELECT button**

Press this button to confirm the selection of menu items.

If a menu item has sub items, those sub items are displayed.

#### **VALUE knob**

Selects settings.

The setting changes as the VALUE knob is turned counterclockwise/clockwise.

#### **CANCEL button**

Press this button to go back one level in the menu and to exit the setup menu.

#### **Note**

On the SRG-360SHE, pressing the CANCEL button during menu operation will exit menu mode. To go up one level in the menu, press and hold the CAM MENU button.

#### **Operation using the joystick**

Select a setup menu item using tilt operation, and select the setting using pan operation.

Press the joystick button to confirm the selection of items and settings.

- 4** Exit camera setup menu mode.  
Press the CANCEL button repeatedly until the menu disappears.

# Setting Specific Functions using Shortcuts (FUNCTION Menu)

When the IRIS, GAIN, SHUTTER, ASSIGN 4, ASSIGN 5, or ASSIGN 6 button is pressed on the menu control block, the setup item and setting of the function assigned to the button is displayed on the LCD panel. You can change the setting using the VALUE knob. This allows you to set some functions more quickly than by using normal menu operations.

### Notes

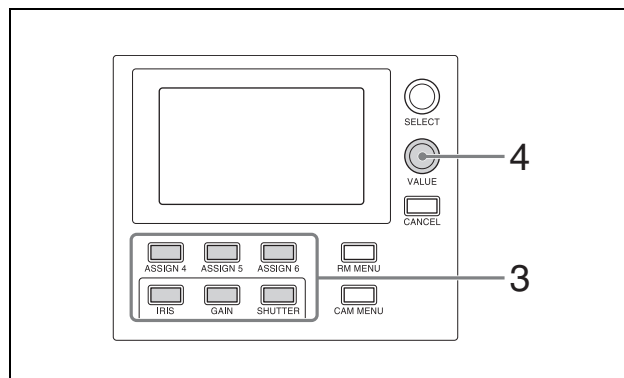
- Depending on the camera model, the settings displayed on the unit and camera menu display may not be the same. In this case, the settings displayed in the camera menu are the actual settings.
- When changing a setting, there may be some delay before the display is updated.

## Buttons and knobs used for FUNCTION menu operations

Operation	Buttons and knobs used
Activate FUNCTION menu mode.	Press the IRIS, GAIN, SHUTTER, or ASSIGN 4 to ASSIGN 6 button.
Change the setting of the setup menu sub item.	Turn the VALUE knob. Confirmation of changed settings is not required.
Save settings.	Saved on the camera using the camera preset memory function.*

\* For details about items saved with a preset number, refer to the operating instructions of each camera.

## Operation using IRIS, GAIN, and SHUTTER buttons



- 1 Set CONFIG >RM SETUP >AE CONFIG to MANUAL, IRIS Pri, GAIN Pri, or SHUTTER Pri in the RM menu. For details about AE CONFIG, see “AE CONFIG” (page 46).
- 2 Press the AE button, turning it off (button is not lit). The IRIS, GAIN, or SHUTTER button operation which is enabled (lit blue) is determined by the AE CONFIG setting.
- 3 Press the IRIS, GAIN, or SHUTTER button. The button is lit yellow, and the adjustment item and setting are displayed on the LCD panel.
- 4 Set the value using the VALUE knob.

### Note

If an adjustment is not supported, “---” is displayed for the adjustment value.

### IRIS button

Sets the iris value of the camera.

### GAIN button

Sets the gain value of the camera.

### SHUTTER button

Sets the shutter speed of the target camera.

The settings display varies depending on the frame rate setting (59.94 Hz or 50 Hz).

For details about the frame rate setting, see “CAMERA FREQ” (page 46).

## Operation using ASSIGN 4, ASSIGN 5, and ASSIGN 6

Press ASSIGN 4, ASSIGN 5, or ASSIGN 6. The button is lit yellow, and the adjustment item and setting of the function assigned to the button is displayed on the LCD panel.

In this version, the following functions have been assigned, and cannot be changed.

### ASSIGN 4 button

Sets **DETAIL LEVEL** on the target camera.

### ASSIGN 5 button

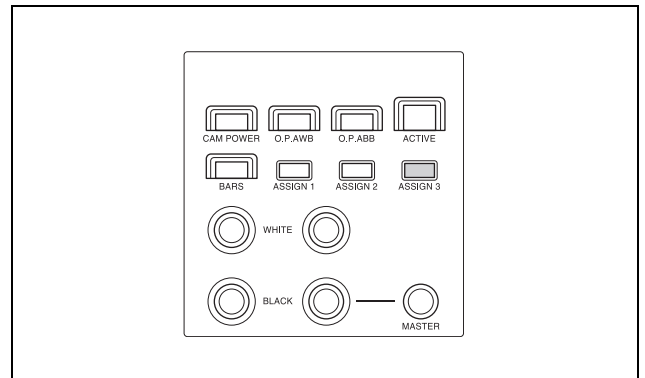
Sets **KNEE POINT** on the target camera.

### ASSIGN 6 button

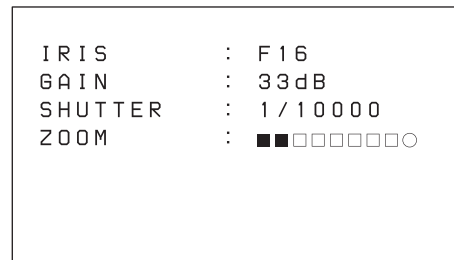
Sets **AE LEVEL** on the target camera.

## Checking Camera Settings Status (Status Display)

Press the ASSIGN 3 button on the color adjustment block to display the current iris, gain, shutter speed, and zoom position status of the target camera on the LCD panel for about three seconds.



Press ASSIGN 3 to display the camera settings status on the LCD panel.



After approximately three seconds, the display automatically turns off.

### ZOOM position indicator

■■■□□□□□○

←WIDE TELE→

□ represents the divisions between the WIDE and TELE positions, while ■ represents the current position from the WIDE end.

○ indicates Clear Image Zoom and the digital zoom range. The indicator changes to ● when shooting in that range.

# Restoring Factory Default Settings

You can restore all settings stored in the unit to their factory default values.

This operation is performed using MAINTENANCE >RESET in the RM menu.

- 1** Press the RM MENU button, turning it on (button is lit yellow).  
The RM menu top menu appears.
- 2** Turn the SELECT knob to move the cursor to MAINTENANCE.
- 3** Press the SELECT button.  
The MAINTENANCE menu appears.
- 4** Turn the SELECT knob to select RESET.  
The RESET screen appears.
- 5** Turn the SELECT knob to move the cursor to RESET ALL.  
→RESET ALL : : NOT EXEC
- 6** Turn the VALUE knob to change NOT EXEC to EXEC, then press the VALUE button.  
The following message appears, prompting you to reboot the unit.

```

<CONFIRM EXECUTION>
→CONFIRM      : NO

REBOOT SYSTEM
AFTER CONFIRMATION
  
```

- 7** Turn the SELECT knob to move the cursor to CONFIRM.  
→CONFIRM : NO
- 8** Turn the VALUE knob to change NO to YES, then press the VALUE button.  
  
The unit reboots automatically.

## Default values

The state of each control block on the control panel is given below.

- The ACTIVE button is on (button is lit) on the color adjustment block, lens control block, and preset memory control block.
- The DIRECT RECALL button is on (button is lit) on the preset memory control block.
- The CAMERA 1 button is on (button is lit yellow) on the camera selection block, and the CAMERA buttons that were blue are off (not lit). "1" (group number 1) is displayed in the group number display.
- The RM menu button is on (button is lit) in the menu control block, and the top menu is displayed on the LCD panel.

All camera information in the camera table is cleared, and the settings for camera information items are undefined.

The settings of all setup items in the RM menu are returned to their default values, shown in the following table.

Menu item	Sub menu item	Setup item	Default value
OPERATION	PRESET	SPEED	24
CONFIG	RM SETUP	AE CONFIG	MANUAL
		CAM POWER	EACH
		ZOOM	LEVER
		CAMERA FREQ	59.94*
	DIRECTION	JOYSTICK PAN	STANDARD
		JOYSTICK TILT	STANDARD
		ZOOM LEVER	STANDARD
		FOCUS DIAL	STANDARD
	GPI I/O	SETTING	INPUT
		TALLY MODE	NORMAL
		COMMAND SEL	STANDARD
		CAMERA LINK	ON
	LAN	IP	192.168.0.10
		SM	255.255.255.0
		GW	0.0.0.0
		APPLY	NOT EXEC
SERIAL	BAUD RATE	9600	
	APPLY	NOT EXEC	
CONTROL I/F		LAN	

Menu item	Sub menu item	Setup item	Default value
AUTO IP SETUP	SETUP IP	[FROM] IP	192.168.0.1
		[TO] IP	192.168.0.254
		SETUP IP	NOT EXEC
	ASSIGN CAM	[FROM] GROUP NUM	01
		[FROM] CAMERA NUM	01
		KEEP IP	NOT EXEC
	CLEAR TABLE	CLEAR TABLE	NOT EXEC
	SWAP CAM	CAMERA A	01-01
		IP (IP address)	---.---.---.---
		MAC (MAC address)	XX-XX-XX-XX-XX-XX
		CAMERA B	01-01
		IP (IP address)	---.---.---.---
		MAC (MAC address)	XX-XX-XX-XX-XX-XX
		SWAP A<=>B	NOT EXEC
	CAMERA TABLE	GROUP NUM	01-LOWER
		CAM INFO	IP ADD
		IP ADD(01-05) (IP address)	---.---.---.---
		MAC ADD(01-05) (MAC address)	XX-XX-XX-XX-XX-XX

\* Default value of 50 for models sold in China.



# Function of Buttons/Knobs in Each Block by Camera Model

Yes: Supported  
 -: Not supported

Control block	Button/knob	Function	Conditions	BRC-X1000/H800	BRC-H900	SRG-360SHE
Lens control block	AE button	Exposure mode selection	<ul style="list-style-type: none"> <li>When the button is on (lit): Full auto.</li> <li>When the button is off (not lit): Follows CONFIG &gt;RM SETUP &gt;AE CONFIG setting in the RM menu.</li> </ul>	Yes	Yes	Yes
	FOCUS adjustment knob	Manual focus adjustment	Enabled when the AUTO FOCUS mode button is not lit.	Yes	Yes	Yes
	O.P.A.F (one-push auto focus) button	One-push auto focus adjustment	Enabled when the AUTO FOCUS mode button is not lit.	Yes	Yes	Yes
	IRIS knob	Iris setting adjustment	Enabled when the AE button is not lit, and CONFIG >RM SETUP >AE CONFIG is set to MANUAL or IRIS Pri in the RM menu.	Yes	Yes	Yes
Color adjustment block	O.P.AWB (one-push auto white balance) button	One-push white balance auto adjustment	Enabled when OPERATION >WHITE >WB MODE is set to ONE PUSH in the RM menu.	Yes	Yes	Yes
	O.P.ABB (one-push auto black balance) button	One-push black balance auto adjustment	Enabled when OPERATION >BLACK >ABB MODE is set to ON in the RM menu.	-	Yes	-
	BARS button	Toggle color bars output on/off.	-	-	Yes	-
	ASSIGN 1 button	Toggle backlight compensation on/off.	Enabled when the AE button is lit.	Yes	Yes <sup>*1</sup>	Yes
	ASSIGN 2 button	Toggle flicker compensation on/off.	Enabled when FLICKER CANCEL >MODE is set to ON in the camera menu.	Yes	Yes	-
	ASSIGN 3 button	Display the status of the iris, gain, shutter speed, and zoom position.	-	Yes	Yes	Yes
	R-WHITE knob/ B-WHITE knob	R gain and B gain adjustment	Enabled when OPERATION >WHITE >WB MODE is set to MANUAL in the RM menu.	Yes	Yes	Yes
	R-BLACK knob/ B-BLACK knob	R black and B black adjustment	Enabled when OPERATION >BLACK >ABB MODE is set to OFF in the RM menu.	-	Yes	-
	MASTER BLACK knob	Master black adjustment	-	Yes	- <sup>*2</sup>	-

Yes: Supported  
 -: Not supported

Control block	Button/knob	Function	Conditions	BRC-X1000/H800	BRC-H900	SRG-360SHE
FUNCTION menu of menu control block	ASSIGN 4 button	DETAIL LEVEL display	–	Yes	Yes	Yes <sup>*3</sup>
		Adjustment using VALUE knob after DETAIL LEVEL is displayed	On the BRC-H900, enabled if DETAIL is set to ON in the camera menu.			
	ASSIGN 5 button	KNEE POINT display	–	Yes	Yes	–
		Adjustment using VALUE knob after KNEE POINT is displayed	Enabled when KNEE is set to ON in the camera menu, and KNEE MODE is set to MANUAL.			
	ASSIGN 6 button	AE level display	Enabled when the AE button is lit, or if the AE button is not lit and CONFIG >RM SETUP >AE CONFIG is not set to MANUAL in the RM menu.	Yes	Yes	Yes
		Adjustment using VALUE knob after AE level is displayed	Enabled when OPERATION >EXPOSURE >EX-COMP is set to ON in the RM menu.			
	IRIS button (lit blue when enabled)	IRIS setting display	Enabled when the AE button is not lit.	Yes	Yes	Yes
		Adjustment using VALUE knob after IRIS setting is displayed	Enabled when the AE button is not lit, and CONFIG >RM SETUP >AE CONFIG is set to MANUAL or IRIS Pri in the camera menu.			
	GAIN button (lit blue when enabled)	GAIN setting display	Enabled when the AE button is not lit.	Yes	Yes <sup>*4</sup>	Yes <sup>*4</sup>
		Adjustment using VALUE knob after GAIN setting is displayed	Enabled when the AE button is not lit, and CONFIG >RM SETUP >AE CONFIG is set to MANUAL or GAIN Pri in the camera menu.			
	SHUTTER button (lit blue when enabled)	Shutter speed display	Enabled when the AE button is not lit.	Yes <sup>*5</sup>	Yes <sup>*5</sup>	Yes <sup>*5</sup>
		Adjustment using VALUE knob after shutter speed is displayed	Enabled when the AE button is not lit, and CONFIG >RM SETUP >AE CONFIG is set to MANUAL or SHUTTER Pri in the camera menu.			

\*1 Enabled when Exposure Mode is set to FULL AUTO or BACK LIGHT in the camera menu.

\*2 Setting is enabled in the camera menu.

\*3 The APERTURE setting of the PICTURE menu on the camera is applied.

\*4 GAIN Pri cannot be selected.

\*5 Setting changes with the frame rate (50 Hz/59.94 Hz). Set CONFIG >RM SETUP >CAMERA FREQ in the RM menu to the frame rate setting of the camera.

# RM Menu List

Menu item	Sub menu item	Setup item	See
OPERATION page 43	EXPOSURE	EX-COMP	page 43
		AE LEVEL	page 43
	WHITE	WB MODE	page 44
		R. WHITE	page 44
		B. WHITE	page 44
		OFFSET	page 44
	BLACK	ABB MODE	page 44
		R. BLACK	page 44
		B. BLACK	page 44
		M. BLACK	page 44
	DETAIL	SETTING	page 44
		LEVEL	page 44
	KNEE	SETTING	page 44
		KNEE MODE	page 44
POINT		page 44	
	SLOPE	page 44	
MATRIX	MATRIX	page 44	
	SELECT	page 44	
PRESET	SPEED	page 44	
CONFIG page 46	RM SETUP	AE CONFIG	page 46
		CAM POWER	page 46
		ZOOM	page 46
		CAMERA FREQ	page 46
	SW ASSIGN		page 46
	DIRECTION	JOYSTICK PAN	page 46
		JOYSTICK TILT	page 47
		ZOOM LEVER	page 47
		FOCUS DIAL	page 47
	GPI I/O	SETTING	page 47
		TALLY MODE	page 47
		COMMAND SEL	page 47
		CAMERA LINK	page 47
	LAN		page 48
	SERIAL		page 48
	CONTROL I/F		page 48
	AUTO IP SETUP page 48	SETUP IP	page 48
		ASSIGN CAM	page 48
		CLEAR TABLE	page 48
SWAP CAM		page 48	
CAMERA TABLE		page 48	
MAINTENANCE page 49	MODEL INFO	MODEL	page 49
		S/NO	page 49
		VERSION	page 49
	UPDATE MODE		page 49
	RESET		page 49

## OPERATION

You can check and change camera menu settings while operating a camera. This menu is also used to set and change the speed of movement between positions when using the preset memory function.

During operation, the settings of the OPERATION menu setup items display the settings configured on the camera.

Accordingly, default settings are not indicated in the description of each setting.

To store the settings changed using this menu, use the preset memory function of the camera. For details about items saved with a preset number, refer to the operating instructions of each camera.

### Notes

- Depending on the camera model, the settings displayed on the unit and camera menu display may not be the same. In this case, the settings displayed in the camera menu are the actual settings.
- When changing a setting, there may be some delay before the display is updated.

```
< OPERATION >
→ EXPOSURE
  WHITE
  BLACK
  DEATIL
  KNEE
  MATRIX
  PRESET
```

## EXPOSURE

Sets the exposure compensation function of the target camera.

## EX-COMP

Turns the exposure compensation mode on/off.

## AE LEVEL

Sets the control level for automatic camera brightness control (exposure compensation level).

## WHITE

Sets the white balance adjustment function of the target camera.

## WB MODE

Settings	Description
AUTO1	Automatically adjusts the white balance using AUTO1.
AUTO2	Automatically adjusts the white balance using AUTO2.
INDOOR	Adjusts to a white balance suitable for indoor shooting.
OUTDOOR	Adjusts to a white balance suitable for outdoor shooting.
ONE PUSH	Executes a white balance adjustment. Shoot a large white object in the center of the screen and press the O.P.AWB button.
MANUAL	Adjusts the white balance manually. Selecting this enables the R. WHITE and B. WHITE items.

### R. WHITE

Sets the R. WHITE value.

### B. WHITE

Sets the B. WHITE value.

### OFFSET

Adjusts the offset level of the white convergence point. Negative values shift the convergence point in the blue direction, and positive values shift the convergence point in the red direction.

---

## BLACK

Sets the black balance adjustment function of the target camera.

### ABB MODE

Turns the black balance adjustment function on/off.

### R. BLACK

Sets the R. BLACK value.

### B. BLACK

Sets the B. BLACK value.

### M. BLACK

Sets the M. BLACK value.

---

## DETAIL

Sets the detail enhancement function of the target camera.

### SETTING

Turns the detail correction function on/off. When set to ON, you can set the level of detail correction.

## LEVEL

Adjusts the level of detail correction.

---

## KNEE

Sets the KNEE correction function on the target camera.

### SETTING

Turns the KNEE correction function on/off. When set to ON, the high luminance parts of the image are compressed.

## KNEE MODE

Settings	Description
AUTO	Automatically calculates the optimum luminance level at which knee correction is applied from the luminance level of the image being shot.
MANUAL	Allows you to adjust the luminance level at which knee correction (POINT and SLOPE) is applied, irrespective of the luminance level of the image being shot.

### POINT

Adjusts KNEE POINT.

### SLOPE

Adjusts the gradient of the slope above the knee point (degree of compression).

---

## MATRIX

Sets the MATRIX adjustment function on the target camera.

### MATRIX

Turns the MATRIX adjustment function on/off. When set to ON, you can enhance or weaken a specific color region while keeping the white convergence point unchanged.

### SELECT

Selects a built-in preset matrix used for matrix calculation. You can choose from STD, HIGH SAT, and FL LIGHT.

---

## PRESET

Sets the speed of movement when switching positions using preset memory.

### SPEED

Sets the speed of movement when switching positions using preset memory.

## OPERATION menu support by camera model

Yes: Supported  
 -: Not supported

Setup item		Function	Conditions	BRC-X1000/H800	BRC-H900	SRG-360SHE
EXPOSURE	EX-COMP	Exposure compensation function on/off	–	Yes	Yes <sup>*1</sup>	Yes
	AE LEVEL	Exposure compensation level setting	Enabled when EX-COMP is set to ON.	Yes	Yes	Yes
WHITE	WB MODE	White balance adjustment method selection	–	Yes	Yes <sup>*2</sup>	Yes <sup>*3</sup>
	R. WHITE	R. WHITE value setting	Enabled when WB MODE is set to MANUAL.	Yes	Yes	Yes
	B. WHITE	B. WHITE value setting	Enabled when WB MODE is set to MANUAL.	Yes	Yes	Yes
	OFFSET	Convergence point offset adjustment	Enabled when WB MODE is set to AUTO1, AUTO2, or ONE PUSH.	Yes	Yes	–
BLACK	ABB MODE	Black balance adjustment function setting	–	–	Yes	–
	R. BLACK	R. BLACK value setting	–	–	Yes	–
	B. BLACK	B. BLACK value setting	–	–	Yes	–
	M. BLACK	M. BLACK value setting	–	Yes	–	–
DETAIL	SETTING	Detail correction function on/off	–	Yes <sup>*1</sup>	Yes	Yes <sup>*1</sup>
	LEVEL	Detail correction level setting	Enabled when SETTING is set to ON.	Yes	Yes	Yes <sup>*4</sup>
KNEE	SETTING	KNEE correction function on/off	–	Yes	Yes	–
	KNEE MODE	KNEE adjustment function AUTO/MANUAL selection	Enabled when SETTING is set to ON.	Yes	Yes	–
	POINT	KNEE POINT setting	Enabled when KNEE MODE is set to MANUAL.	Yes	Yes	–
	SLOPE	KNEE slope setting	Enabled when KNEE MODE is set to MANUAL.	Yes	Yes	–
MATRIX	MATRIX	MATRIX adjustment function on/off	–	Yes	Yes	–
	SELECT	Built-in preset matrix selection used for matrix calculation	Enabled when MATRIX is set to ON.	Yes	Yes	–
PRESET	SPEED	Speed of movement setting when switching positions using the preset memory function.	–	Yes	Yes	–

\*1 Always set to ON. Cannot be set to OFF.

\*2 AUTO2 cannot be selected.

\*3 When AUTO2 is selected, the ATW white balance mode on the camera is applied.

\*4 The APERTURE setting of the PICTURE menu on the camera is applied.

# CONFIG

This menu is used to configure functions of the unit.

```
<CONFIG>
>RM SETUP
SW ASSIGN
DIRECTION
GPI I/O
LAN
SERIAL
CONTROL I/F: LAN
```

**Note**

During CONFIG menu operation, operation using controls other than the buttons and knobs on the menu control block is not supported.

## RM SETUP

Sets the operation of the unit.

## AE CONFIG

You can select the following exposure modes when the AE button on the lens control block is off. To apply the setting, after selection, turn the AE button on and then off again.

Settings (Bold: default value)	Description
<b>MANUAL</b>	The gain (GAIN), electronic shutter speed (SPEED), and iris (IRIS) can be adjusted manually.
SHUT Pri	Automatically adjusts the exposure using the gain and iris. Adjust the electronic shutter speed (SPEED) manually.
IRIS Pri	Automatically adjusts the exposure using the gain and electronic shutter speed. Adjust the iris (IRIS) manually.
GAIN Pri	Automatically adjusts the exposure using the electronic shutter speed (SPEED) and iris (IRIS). Adjust the gain (GAIN) manually.

## CAM POWER

Settings (Bold: default value)	Description
<b>EACH</b>	Only the target camera turns on/off when using the CAM POWER button.
ALL	All cameras registered in the camera table turn on/off when using the CAM POWER button.

## ZOOM

Settings (Bold: default value)	Description
<b>LEVER</b>	Controls the zoom of the target camera using the ZOOM lever on the lens control block.
JOYSTICK	Controls the zoom of the target camera using the ZOOM ring on the joystick.

## CAMERA FREQ

Settings (Bold: default value)	Description
<b>59.94</b>	Selects the frame rate for the shutter speed displayed in the menu. You can select from 59.94 [Hz] and 50 [Hz].*
50	

\* The shutter speed is displayed in the status display (page 38) for the ASSIGN 3 button.

## SW ASSIGN

Assign functions to the ASSIGN 1 to ASSIGN 6 buttons of the unit.

**Note**

In this version, the assignment of the ASSIGN buttons is fixed and cannot be changed.

Assign button	Settings	Description
ASSIGN 1	BACK LIGHT	Settings are fixed.
ASSIGN 2	FLICKER	
ASSIGN 3	STATUS	
ASSIGN 4	DETAIL	
ASSIGN 5	KNEE	
ASSIGN 6	AE LEVEL	

## DIRECTION

Sets the control direction of the joystick, ZOOM lever, and FOCUS knob.

## JOYSTICK PAN

Settings (Bold: default value)	Description
<b>STANDARD</b>	Inclining the joystick to the right pans the camera to the right. Inclining to the left pans the camera to the left.
REVERSE	Inclining the joystick to the right pans the camera to the left. Inclining to the left pans the camera to the right.

## JOYSTICK TILT

Settings (Bold: default value)	Description
<b>STANDARD</b>	Inclining the joystick forward tilts the camera up. Inclining rearward tilts the camera down.
REVERSE	Inclining the joystick forward tilts the camera down. Inclining rearward tilts the camera up.

## ZOOM LEVER

Settings (Bold: default value)	Description
<b>STANDARD</b>	Moving the ZOOM lever to the W side (Wide) zooms out, and moving to the T side (Tele) zooms in.
REVERSE	Moving the ZOOM lever to the W side (Wide) zooms in, and moving to the T side (Tele) zooms out.

## FOCUS DIAL

Settings (Bold: default value)	Description
<b>STANDARD</b>	Turning the FOCUS knob clockwise moves the focus in the Far direction, and turning counterclockwise moves the focus in the Near direction.
REVERSE	Turning the FOCUS knob clockwise moves the focus in the Near direction, and turning counterclockwise moves the focus in the Far direction.

## GPI I/O

Sets the GPI I/O connector signal format and tally operation mode.

### SETTING

Settings (Bold: default value)	Description
<b>INPUT</b>	Sets the control signal direction of the GPI I/O connector to INPUT. In this case, connect a tally control input signal to the connector.
OUTPUT	Sets the control signal direction of the GPI I/O connector to OUTPUT. In this case, the connector functions as a contact output connector which outputs the camera number of the target camera.

## TALLY MODE

This setting is enabled when SETTING is set to INPUT.

Settings (Bold: default value)	Description
<b>NORMAL</b>	Displays the tally input lamp corresponding to the number of the camera with tally input ON, and automatically selects the camera as the target camera.
ON AIR	Displays the tally input lamp corresponding to the number of the camera with tally input ON.

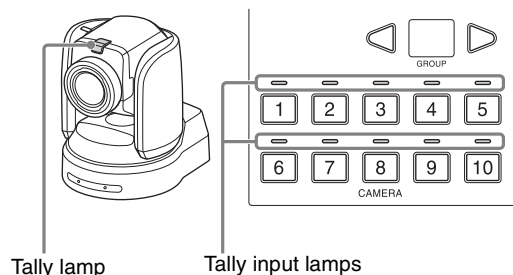
## COMMAND SEL

Settings (Bold: default value)	Description
<b>STANDARD</b>	Sets the input/output method to STANDARD method. The camera numbers and input/output pin numbers have a 1:1 correspondence. <ul style="list-style-type: none"> <li>If the unit and cameras are connected by serial connection, cameras 1 to 7 correspond to input/outputs 1 to 7.</li> <li>If the unit and cameras are connected by LAN connection, cameras 1 to 10 in group 1 correspond to input/outputs 1 to 10.</li> </ul>
EXPAND	Handles camera numbers as binary numbers. <ul style="list-style-type: none"> <li>Tally input numbers 8 and higher in a serial connection are ignored. In this case, the response is equivalent to no input.</li> <li>Numbers in a LAN connection, corresponding to cameras 1 to 10 in groups 1 to 10, are handled as the numbers 1 to 100. Tally input numbers 101 and higher are ignored. In this case, the response is equivalent to no input.</li> </ul>

## CAMERA LINK

Settings (Bold: default value)	Description
<b>ON, OFF</b>	Turns tally lamp control on/off. The tally lamp control operation varies depending on the combination of the SETTING and CAMERA LINK settings. For details, see “Tally lamp control operation” below.

### Tally lamp control operation



CAMERA LINK setting	Control lamps	SETTING setting	
		IN	OUT
OFF	Tally input lamps 1 to 10	Displays the tally input lamp corresponding to the number of the camera with tally input ON.	Not lit
	Camera tally lamp	The camera tally lamps are not controlled. A tally lamp ON/OFF command is not sent.	
ON	Tally input lamps 1 to 10	Displays the tally input lamp corresponding to the number of the camera with tally input ON.	Not lit
	Camera tally lamp	Displays the camera tally lamp corresponding to the number of the camera with tally input ON.	The tally lamp of the target camera becomes the control target, and the camera tally lamp lights up.

---

## LAN

Configures the network of the unit when the unit and target cameras are connected by LAN connection. For details, see “Setting the IP address of the unit” (page 14).

---

## SERIAL

Configures serial connections when the unit and target cameras are connected by serial connection. For details, see “Configuring a serial connection” (page 23).

---

## CONTROL I/F

Displays the enabled control interface of cameras. When LAN connection is enabled, LAN is displayed. When serial connection is enabled, SERIAL is displayed.

---

# AUTO IP SETUP

This menu is used to configure the automatic assignment of IP addresses of the detected cameras on the network. This is used when the unit and cameras are connected by LAN connection.

```

<AUTO IP SETUP>
>SETUP IP
  ASSIGN CAM
  CLEAR TABLE
  SWAP CAM
  CAMERA TABLE

```

---

## SETUP IP

Assigns IP addresses to cameras automatically, and then assign the cameras to the camera selection buttons of the unit.

For details, see “Assignment using AUTO IP SETUP >SETUP IP” (page 17).

---

## ASSIGN CAM

Assigns cameras that already have configured IP addresses to the camera selection buttons of the unit. For details, see “Assignment using AUTO IP SETUP >ASSIGN CAM” (page 18).

---

## CLEAR TABLE

Clears the camera information.

For details, see “To clear the camera table” (page 19).

---

## SWAP CAM

Swaps the camera number and camera information of two cameras registered in the camera table.

For details, see “To swap camera numbers” (page 19).

---

## CAMERA TABLE

Displays the camera information (IP address and MAC address) registered in the camera table.

For details, see “To check the camera table” (page 20).



---

# MAINTENANCE

This menu is used to perform maintenance of the unit.

```
< MAINTENANCE >
→ MODEL INFO
  UPDATE MODE
  RESET
```

---

## MODEL INFO

Displays model information about the unit.

### MODEL

Display	Description
RM-IP500	Displays the model name of the unit.

### S/NO

Display	Description
1234567	Displays the serial number of the unit.

### VERSION

Display	Description
X.XX	Displays the firmware version of the unit.

---

## UPDATE MODE

To permit access to the unit from a PC, set UPDATE MODE to ON. Enable update mode when backing up or restoring settings, or using the setup software RM-IP Setup Tool.

When UPDATE MODE is set to ON, all operations are disabled, except the VALUE knob and VALUE button operation.

To return to normal operation mode, set UPDATE MODE to OFF.

For details, see “Using a Setup PC” (page 25).

### Note

When UPDATE MODE is set to ON, the buttons on the control panel blink at roughly 1-second intervals. Blinking indicates that external access to the unit is permitted. It does not indicate a malfunction.

---

## RESET

Resets all settings stored on the unit to their default values.

For details, see “Restoring Factory Default Settings” (page 39).

## Troubleshooting

Before bringing in your unit for service, check the following as a guide to troubleshoot the problem. If the problem cannot be corrected, consult with your Sony dealer.

Symptom	Cause	Remedy
The power of the unit is not turned on.	The AC power adapter is not connected to the DC IN 12V jack firmly.	Insert the power cord firmly as far as it will go.
	The AC power cord is not inserted firmly into the AC power adapter or the AC outlet.	Insert the power cord firmly as far as it will go.
The camera cannot be operated with the unit.	The physical connection and communication method settings are different.	Check the communication method (LAN or SERIAL) in CONGIF >CONTROL I/F in the RM menu. Change the communication method setting if it is different to the physical connection method. <ul style="list-style-type: none"> <li>• “VISCA over IP (LAN) connection” (page 14)</li> <li>• “Configuring a serial connection” (page 23)</li> </ul>
	(Serial connection) The communication baud rate setting of the camera and the unit differ.	<b>Note</b> LAN connection and serial connection cannot be used at the same time.  Set the baud rate to the same setting as the camera (9,600 bps or 38,400 bps) (page 23).
	(Serial connection) The VISCA RS-422 connection is not correctly made.	Check the connection of the VISCA RS-422 connectors and the RS-422 cable (page 21 and 22).
	(LAN connection) The GROUP number differs.	Select the correct GROUP number of the target camera (page 27).
	(LAN connection) There is a mismatch between the MAC address and IP address information of the connected camera and the registered camera table.	Delete the camera table contents using AUTO IP SETUP >CLEAR TABLE in the RM menu, and build the camera table again (page 19).
	A menu other than the FUNCTION menu, OPERATION menu, RM menu, or top menu is displayed.	Select the RM menu top menu.
Operation is not possible while the control panel buttons and LEDs are blinking.	The remote controller is set to update mode.	Set MAINTENANCE >UPDATE MODE to OFF in the RM menu (page 25).
The group number is not displayed, and the GROUP LEFT and GROUP RIGHT buttons cannot be operated. CAMERA 8 to 10 buttons cannot be selected.	Not using a LAN connection.	These functions are enabled for a LAN connection only.

# Specifications

## Input/output connectors

Control input/output

- VISCA RS-422 connector: RJ-45
- LAN connector: RJ-45, 10BASE-T/  
100BASE-TX auto sensing
- GPI I/O: D-sub 15-pin TALLY IN/  
CONTACT OUT

Control signal format (RS-422 communication)

9,600 bps/38,400 bps

Power connector

JEITA type 4 (12 V DC)

## General specifications

Input voltage 12 V DC (10.8 V to 13.2 V)

Current consumption

0.6 A max. (All lamps lit)

Operating temperature

0 °C to 40 °C (32 °F to 104 °F)

Storage temperature

-20 °C to +60 °C (-4 °F to 140 °F)

Dimensions 306 mm × 159.3 mm × 224.1 mm  
(12 1/8 in × 6 3/8 in × 8 7/8 in)  
(width / height / depth) (excluding protrusions)

Mass Approx. 2.4 kg (5 lb 4.7 oz)

## Optional accessories

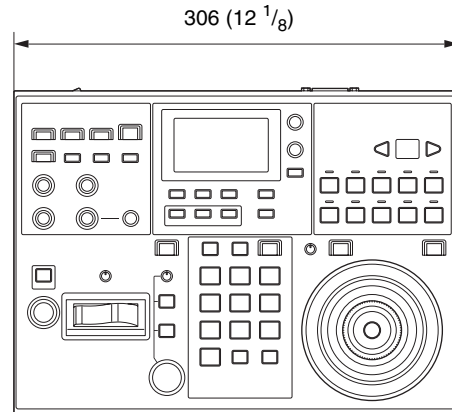
AC adapter (AC-UES1230 series)

For details about the recommended AC adapter, contact your Sony sales representative.

Design and specifications are subject to change without notice.

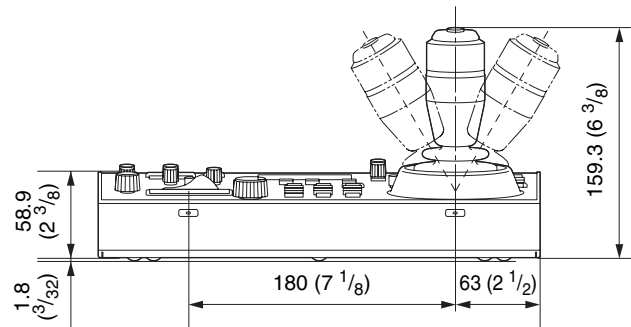
# Dimensions

## Top



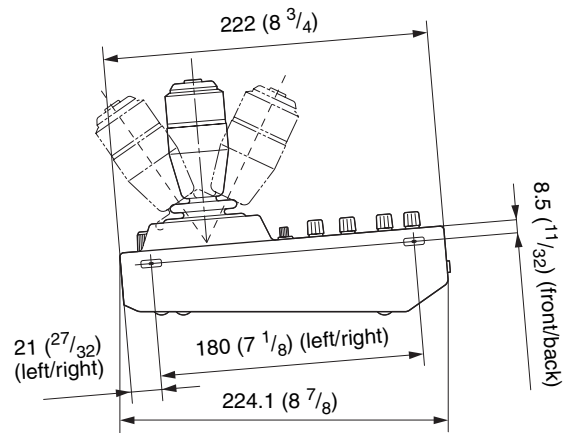
Unit: mm (in)

## Front



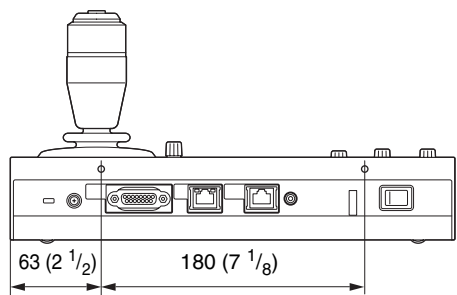
Unit: mm (in)

## Side



Unit: mm (in)

## Rear



Unit: mm (in)

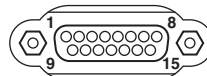
## Pin assignments

### VISCA RS-422 output connector



Pin	Signal name
1	RXD OUT-
2	RXD OUT+
3	TXD OUT-
4	GND
5	GND
6	TXD OUT+
7	No connection
8	No connection

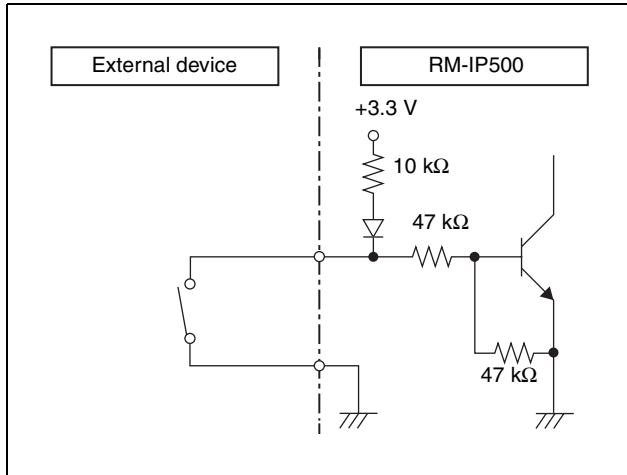
### GPI I/O connector (D-sub 15-pin, female)



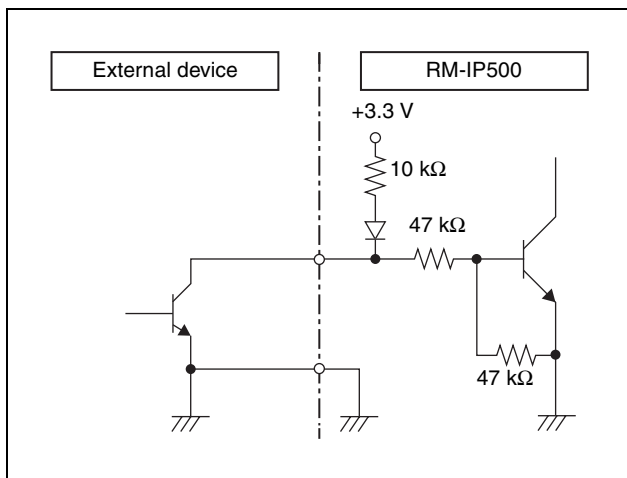
Pin	Signal name
1	TALLY IN/CONTACT OUT 1
2	TALLY IN/CONTACT OUT 2
3	TALLY IN/CONTACT OUT 3
4	TALLY IN/CONTACT OUT 4
5	TALLY IN/CONTACT OUT 5
6	TALLY IN/CONTACT OUT 6
7	TALLY IN/CONTACT OUT 7
8	TALLY IN/CONTACT OUT 8
9	TALLY IN/CONTACT OUT 9
10	TALLY IN/CONTACT OUT 10
11	No connection
12	No connection
13	GND
14	GND
15	GND

## TALLY/CONTACT connector input connection example

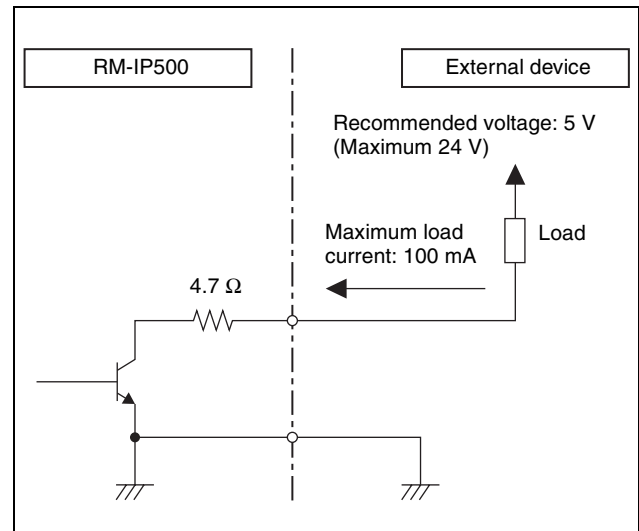
### Switch or relay connection



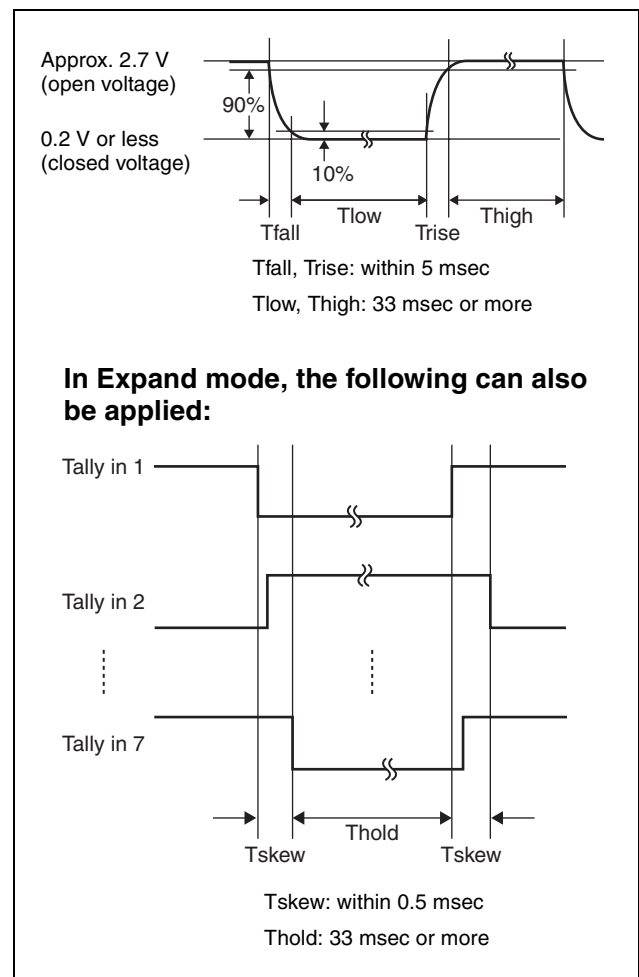
### Open-collector connection



## TALLY/CONTACT connector output connection example



## Input waveform of TALLY/CONTACT connector



---

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