

Color Video Camera

Operating Instructions Software Version 2.0

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

SRG-A40/A12

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Overview

Safety Regulations (Supplied)

The important points for safe use of the camera are described.

Be sure to read the Safety Regulations.

Operating Instructions (This document/ Web)

This document describes the names of the camera parts and how to install, connect, and operate the camera.

Some models on this document are not sold depending on the region.

Using This Manual

This manual is designed to be read on a computer display. The content you need to know in order to use the camera is described here.

Read this manual before operation.

Jumping to a related page

When you read the instructions on a computer display, click the part displaying the relevant page to jump to the 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. The menu displays and illustrations of the camera SRG-A40 are shown in the instructions as examples. Only supported functions are displayed.

Printing the Operating Instructions

When you print this document, depending on the system, note that the displays or illustrations printed on paper may differ from those that appear on the screen.

About the description in this document

Resolution and frame rate are described as follows.

4K	3840×2160/23.98p	
	3840×2160/25p	
	3840×2160/29.97p	
HD	1280×720/50p	1920×1080/50i
	1280×720/59.94p	1920×1080/50p
	1920×1080/23.98p	1920×1080/59.94i
	1920×1080/25p	1920×1080/59.94p
	1920×1080/29.97p	

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Precautions for Preventing Access to the Camera by an Unintended Third Party

The camera settings may be changed by an unintended third party on the network, depending on the usage environment. The camera can be fraudulently accessed in a network environment where a device is connected or connectable to the network without the administrator's permission, or where a computer or other network device connected to the network can be used without any permission. With the customer's responsibility, connect to the network environment such as above. To use this camera, it is necessary to set the password after installing the camera. Refer to "Setting the Initial Password" (page 50) for how to set the password.

Privacy Notice

The tracking function of this unit automatically recognizes the subject, controls the pan/tilt/zoom, uses the tracking technology and face-recognition technology by AI to include the subject within the screen. This function may process the facial data of subjects which you have selected manually during shooting or registered in the settings screen of the Web App before shooting as tracking targets. This facial data is processed only within the unit and not sent to Sony. The facial data of subjects which you have selected as tracking targets during shooting can be deleted by turning off or putting the unit in standby mode or by stopping the tracking function. The facial data of subjects which you have registered as tracking targets before shooting can be deleted by performing the deletion operation in the menu screen of the Web App or by resetting the unit to factory settings.

By using the unit's function, you are responsible for gathering or using the facial data of subjects under applicable data protection laws. It is recommended to inform the subjects of the tracking function and face-recognition technology used by this unit. For inquiries, please contact Sony customer support.

Notes on Usage

- When you shoot with this camera, respect the privacy of others, follow the local privacy law, and regulations or ethical standards of the shooting location.
- Do not use this camera for illegal or inadequate purposes.
- Do not use this camera for slander, ill-treatment, harassment, stalking, threats, or actions which entrench on legal titles such as privacy rights or publicity rights, etc. of others.
- Usage of this camera is not assumed for use by military or law enforcement.

Features

The camera can analyze the captured video and generate the video contents automatically in real-time which generally requires a lot of time as well as work hours and costs.

The setting of the camera or operations of applications can be performed intuitively on the simple screen of the computer's web browser.

PTZ Auto Framing

This application automatically rotates the camera up, down, left, right, and zooms in or out. It keeps shooting a moving subject under an optimum composition.

The camera automatically shoots natural and smooth video as if there were skilled operators operating the camera.

Multi-person Framing

Multi-person Framing is a function that can recognize and track more than one person at a time. This function can be set so that the set number of persons naturally fits within the frame with the appropriate angle of view used. You can automatically track and frame groups of up to 8 persons with a specified primary subject and a selected number of secondary subjects.

Face Registration

Face Registration is a function that automatically detects and tracks targets according to the order of priority set with the pre-registered face data and data priority.

Face data can be registered for up to 40 persons. You can also edit or delete face data, names, and priorities. This function can be used together with Multi-person Framing.

Pan/Tilt/Zoom video camera equipped with a small built-in pan-tilt head

- The camera unit is equipped with a 1/2.5-type Exmor R CMOS sensor and an optical zoom lens*¹ with pan/tilt/zoom features integrated into a small built-in pan-tilt head. This versatile camera can be used for various applications.
- The pan-tilt head can pan to the right or left by 170 degrees and tilt upward to 90 degrees and downward to 20 degrees, which allows the camera to remotely shoot wide areas.
- The camera pans and tilts at a speed of between 0.5 and 101 degrees (maximum speed) per second, and it also pans and tilts at a maximum speed of 300 degrees per second in the preset operation.

Zoom performance for capturing distant subjects

For SRG-A40, in addition to 20×*¹ optical zoom, it uses Sony's 2×*² Clear Image Zoom function and 2× Tele Convert mode*² to achieve the equivalent of up to 80x optical telephoto performance. Moreover, when the digital zoom is used together, this camera achieves the telephoto performance equivalent to 480×.

Audio input/output

The camera is equipped with 2ch audio which is applicable for microphone/line input.

The input audio signal is transmitted to HDMI/SDI simultaneously. Additionally, the signal is transmitted to the IP network with the streaming function.

Video output

In addition to HDMI/SDI output, IP network transmission can be performed simultaneously with the IP streaming function (SDI output does not support 4K).

For the IP streaming function, ITU-T H.264/H.265 is applied to video compression mode (video codec) and it achieves a high compression rate while maintaining the image quality. Also, it decreases the network bandwidth load.

Moreover, the camera supports multi-streaming output. Up to 3 multi-streaming outputs are supported in the different settings.

Preset function

Up to 100 preset data can be stored in the VISCA command and up to 256 preset data in the CGI command.

On the PTZ Motion Sync function, pan, tilt, and zoom work together to enable smooth preset operations.

Equipped with RS-422 interface

The camera is equipped with the RS-422 interface which is the industry standard VISCA camera protocol in external communication.

Equipped with PoE++(class8) (Power over Ethernet Plus Plus)

The camera supports IEEE802.3bt-compatible PoE++(class8) (Power over Ethernet Plus), and power supply and control are possible with one LAN cable.

Compatible with VISCA over IP protocol

An IP connection can be established between the camera and the remote controller.

Equipped with tally lamp

The camera is equipped with a tally lamp that distinguishes between cameras and identifies the AutoFraming shooting statuses in use.

Extensibility

NDI|HX

This camera is compatible with Vizrt Group's NDI|HX products.

To use NDI|HX, you are required to purchase the license key (page 88).

*1 20× optical zoom for the SRG-A40

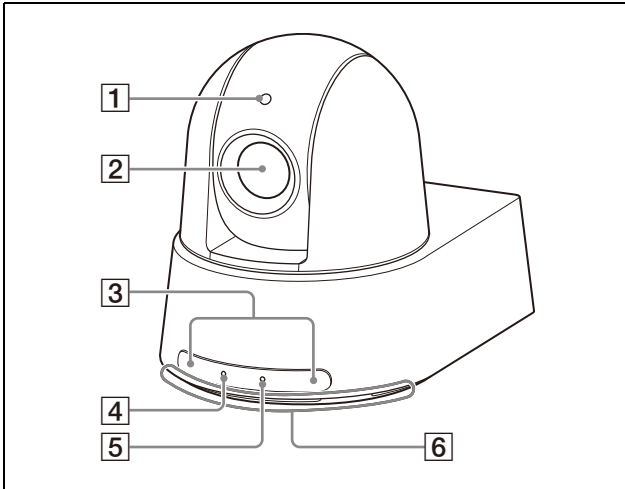
12× optical zoom for the SRG-A12

*2 Functions when shooting at 1920×1080 only.

Location and Function of Parts

Camera

Front



1 Tally lamp

Lights up in red when a tally command is received or the camera is selected by an optional remote controller (depending on the setting mode). Also, this lamp can display the tracking status by changing lighting or flashing in green while the PTZ Auto Framing function is performing. The tally brightness can be set in the OSD menu, Web App, or VISCA/CGI commands.

2 Lens

This is a 20× (SRG-A40) or 12× (SRG-A12) magnification-optical zoom lens. By enabling CLEAR IMAGE ZOOM (Clear Image Zoom), the camera can zoom up to 30× for 4K and 40× for HD. CLEAR IMAGE ZOOM can be set in the OSD menu, Web App, or VISCA/CGI commands. CLEAR IMAGE ZOOM is not available for SRG-A12.

Note

Do not touch the part around the lens when energized.

3 Remote commander sensors

These are sensors for the supplied remote commander.

4 POWER lamp

Flashes in green when the camera is connected to an outlet using the supplied AC adapter and power cord, or when power is

being supplied by connecting the camera and PoE++(class8) power supply device with a LAN cable. The lamp stops flashing and lights up in green when start-up of the camera is complete.

The lamp flashes in green when the camera receives an operation command from the supplied remote commander.

The lamp lights up in orange when the ⏻ (power) button on the supplied remote commander is pressed and the camera enters the standby mode.

The lamp flashes in yellow while upgrading the firmware.

The lamp flashes in orange when there are defects in the camera (for instance, when rotations of the fan motor slows down or stops, etc.).

5 NETWORK lamp

Flashes during initialization when the camera is connected to the PoE++(class8) power supply device with a LAN cable and power is being supplied. The lamp lights up when it is connected to the network once start-up is complete.

Lights up after start-up is complete if connected to a network when power is supplied to the camera from an outlet using an AC adapter and power cord. The lamp turns off when not connected to the network.

The lamp turns off while upgrading the firmware.

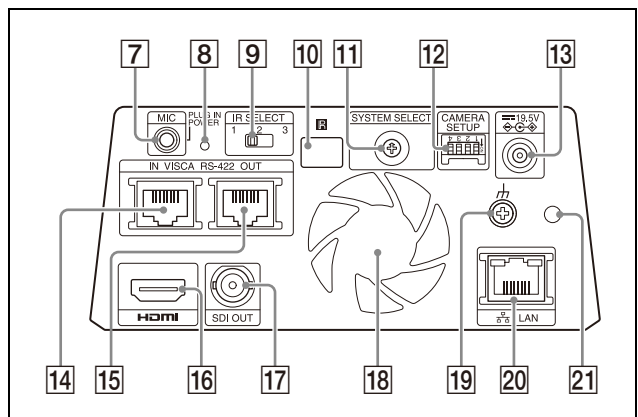
The lamp flashes when there are defects in the camera (for instance, when rotations of the fan motor slows down or stops, etc.).

6 Intake air port

Note

Do not cover this port to avoid malfunctions.

Back



7 MIC terminal (audio input terminal)
 Input for commercially-available MIC or LINE to connect an audio device.
 Switch between MIC and LINE input as indicated on "Connecting to commercially-available microphones, etc." (page 25).

8 Reset switch
 Press the switch for 10 seconds or longer to return to the factory default while in the Power On or Standby status.

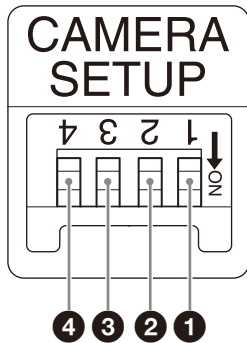
9 IR SELECT switch
 Set the remote commander ID for receiving the signal.
 Use the same ID with the remote commander being used.

10 Remote commander sensor
 This is for the supplied remote commander.

11 SYSTEM SELECT switch
 Used for selecting the video format to be output from the HDMI and SDI OUT terminals. When the SYSTEM SELECT switch is set to 6, the setting can be changed remotely in the OSD menu, Web App, or VISCA/CGI commands.

12 CAMERA SETUP switches
 Perform the camera setup.

CAMERA SETUP switch settings



Switch No.	Setting items
1	SDI format/level settings
2	RESERVED
3	VISCA connect setting
4	Baud Rate settings of RS-422 for VISCA communication

1 SDI format/level settings
 This setting is enabled when the video format is 1920×1080/50p or 1920×1080/59.94p.
 When the SYSTEM SELECT switch is set to 6, the setting set on [VIDEO FORMAT] on

the OSD menu or [Format] under [Video Out] on the Web App menu is applied.

Switch state	SDI format/level
OFF	Level-A
ON	Level-B

To apply the settings, turn off the power and back on again.

- 2** RESERVED
 This switch is not used.
- 3** VISCA connect setting
 This switch is used when VISCA and VISCA over IP are used.

Switch state	VISCA CONNECTION
OFF	Invalidates VISCA, VISCA over IP
ON	Enables VISCA, VISCA over IP

To apply the settings, turn off the power and back on again.

- 4** Baud Rate settings of VISCA RS-422 communication

Switch state	Baud Rate
OFF	9600 bps
ON	38400 bps

To apply the settings, turn off the power and back on again.

13 19.5V (DC power input) terminal
 Connect the AC adapter (supplied).

Notes

- Do not use any AC adapter other than the supplied AC adapter. Otherwise, a fire or malfunction may occur.
- Do not connect the AC adapter and PoE++(class8) power supply device at the same time to avoid heat generation.

14 VISCA RS-422 IN terminal
 Connect with a remote controller (not supplied).
 When you connect multiple cameras, connect it to the VISCA RS-422 OUT terminal of the previous camera in the daisy chain connection.

15 VISCA RS-422 OUT terminal
 When you connect multiple cameras, connect it to the VISCA RS-422 IN terminal of the next camera in the daisy chain connection.

16 HDMI terminal

Outputs the image from the camera as an HDMI video signal.

Note

Under the following cases, VGA output is applied to the image output through the HDMI terminal and the image quality degrades.

- When the SYSTEM SELECT switch is set to 7
- When you choose [720/59.94p VGA] for [VIDEO FORMAT] on the OSD menu
- When you choose [Format] - [1280×720/59.94p (HDMI:VGA)] for [Video Out] on the Web App menu
- When you perform setup using the OSD menu or Web App, set the SYSTEM SELECT switch to 6.

17 SDI OUT terminal

Outputs the image as an SDI video signal. When the video format is set to 4K, images are not output from SDI OUT terminal.

18 Fan / Exhaust port

Evacuate the heat inside the camera.

Notes

- Do not cover this port to avoid malfunctions.
- The temperature of the area near this port may get high. Be careful.

19 ⚡ (earth) terminal

20 🌐 LAN (network) terminal (RJ-45)

Network communication and PoE++(class8)* power supply are provided using the network cable (category 5e or higher). The orange LED lights up when connected by 1000BASE-T, turns off on other occasions. The green LED lights up and flashes when data communication is performed after the link is established.

* PoE++(class8): Power over Ethernet Plus Plus is abbreviated. Based on IEEE802.3bt (Type 4 Class8). For details on the connection, refer to the operating manual of the power supply device.

Note

Do not connect the PoE++(class8) power supply device and AC adapter at the same time to avoid heat generation.

Factory settings for network

DHCP: On

Name: A40 (SRG-A40)
A12 (SRG-A12)

User name: admin

Password: blank space

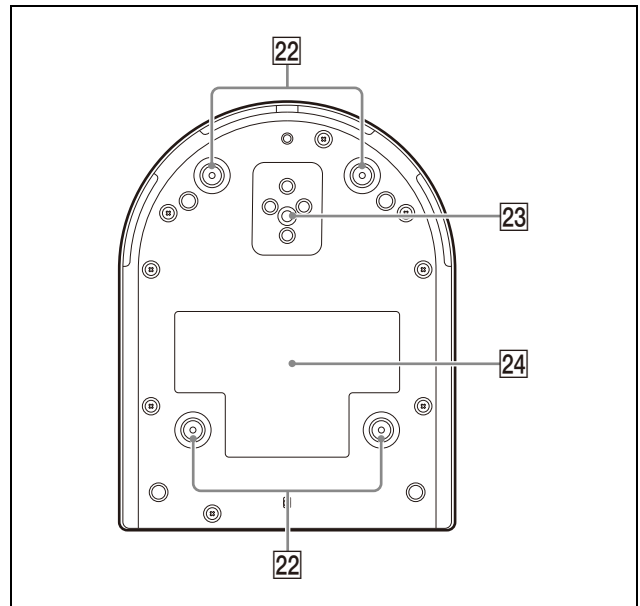
Notes

- Set a password when the camera is being operated for the first time.
- When connecting this camera to a network, connect via a system that provides a protection function such as a router or firewall. If connected without such protection, security issues may occur.

21 AC adapter cord clamber mounting hole

Clamping the supplied cord clamber prevents the AC adapter from coming out.

Bottom



22 Ceiling bracket mounting screw holes

When installing on the ceiling, use the screw holes to attach the supplied ceiling bracket (A). For details, see "Installing the Camera" (page 16).

23 Tripod socket hole

Use this to attach the tripod, etc. For details, see "Attaching the Camera to a Tripod" (page 16).

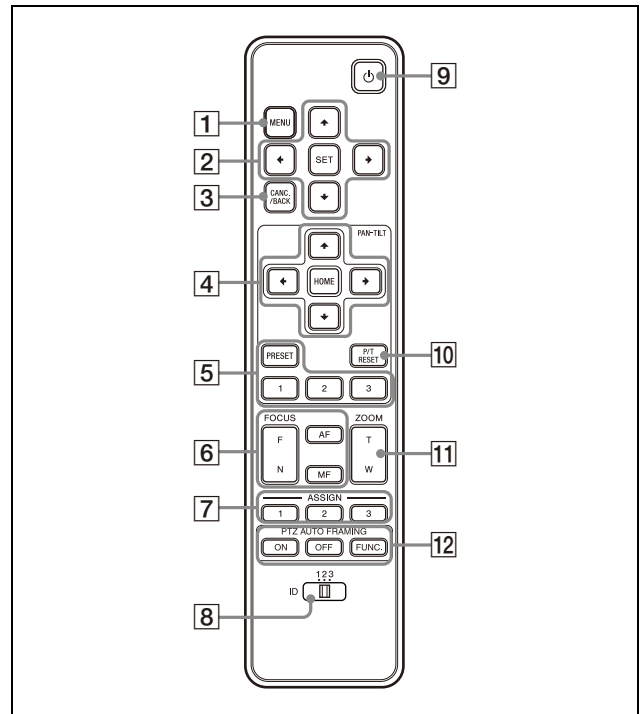
24 Rating label

This label shows the name of the camera and its electric rating.

Important

The product name and electric rating are located at the bottom of the camera.

Infrared Remote Commander (supplied)



1 MENU button

Press the button to display or not to display the OSD menu.

Notes

- The OSD menu is not displayed on the SDI output image when the [Menu Overlay (SDI)] check box on the Web App menu is not selected.
- The OSD menu is not displayed on the HDMI output image when the [Menu Overlay (HDMI)] check box on the Web App menu is not selected.

2 OSD menu operation button

Operates the camera OSD menu. Press the SET button when selecting.

3 CANCEL/BACK button

Press this to cancel the setting in the camera OSD menu, or return to the previous screen.

4 PAN-TILT button

Press the arrow buttons to pan or tilt the camera. Press the HOME button to have the camera return the position facing forward.

5 PRESET position operation button

Hold down the PRESET button and press buttons 1 to 3 to store the current camera direction, zoom, focus adjustment, and backlight compensation in the memory of the pressed number button. Pressing the number button on which the settings are memorized calls their statuses.

Notes

- These buttons do not function when the OSD menu is displayed.
- For details on items that can be stored with the PRESET button, see "Preset Items and Image Setting File Items" (page 98).

6 FOCUS buttons

Used for focus adjustment. Press the AF (Auto Focus) button to adjust the focus automatically. To adjust the focus manually, press the MF (Manual Focus) button, and adjust it with the F (Far) and N (Near) buttons.

Note

Press the MF button and adjust the focus manually when shooting the following objects.

- White walls and other objects without contrast
- Objects behind glass
- Objects with horizontal stripes
- Objects on which bright lights are cast or reflected
- Nightscapes and other dark objects with blinking lights
- Lit objects shot with darkened exposure adjustment or exposure compensation settings

7 ASSIGN button

This is not used.

8 CAMERA SELECT switch

Select the camera's ID you want to operate with the remote commander. The camera ID can be set using the IR SELECT switch.

Note

If two or more cameras are adjacent and have the same ID, they are operated simultaneously with the supplied remote commander. When you install the cameras close to each other, set different IDs.

For setting of camera's ID, see "Operating Multiple Cameras Using the Infrared Remote Commander" (page 26).

9 (power) button

Press this button to turn on the power or to put the camera in standby mode.

10 P/T RESET button

Performs the initialization operation of pan and tilt. Press this when the POWER lamp and NETWORK lamp are flashing at the same time.

11 ZOOM buttons

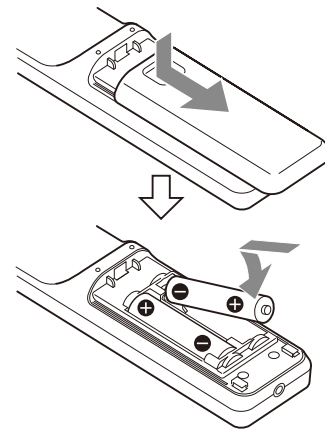
Press the T (telephoto) button to zoom in. Press the W (wide angle) button to zoom out.

12 PTZ AUTO FRAMING button

ON: Performs PTZ Auto Framing.
OFF: Stops PTZ Auto Framing.
FUNC.: Switches between single person tracking and multi-person tracking.

Required batteries

Two R6 (size AA) batteries are required for the remote commander. To avoid the risk of explosion, use R6 (size AA) manganese or alkaline batteries. Insert the batteries to the remote commander while referring to the following illustrations.



Notes

- There is a danger of explosion if the batteries are incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer.
- When you dispose of the batteries, you must obey the laws of your area or country.
- R6 (size AA) batteries are not supplied.

System Configuration

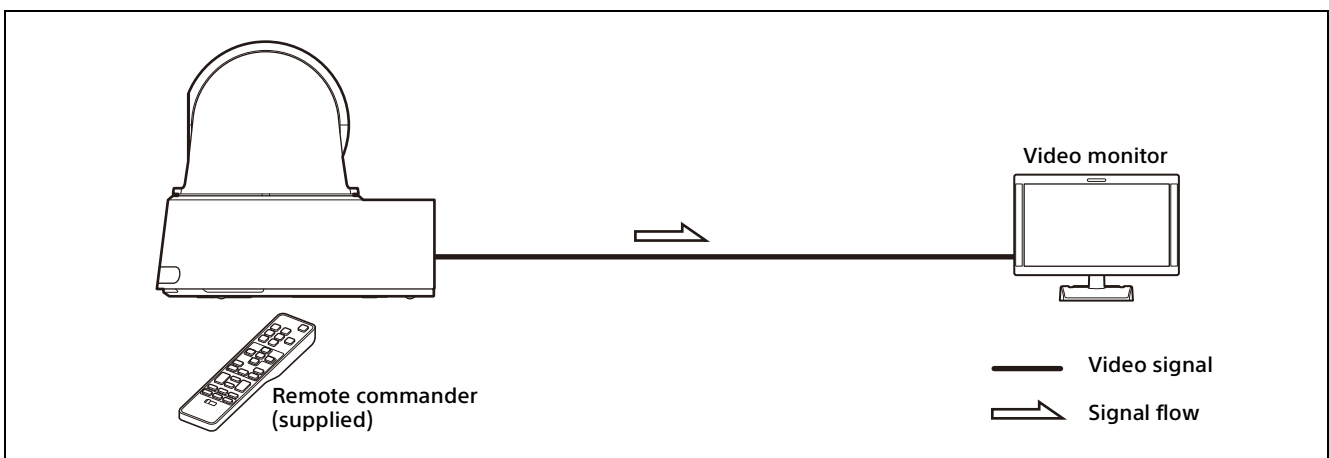
This camera can be arranged into various system configurations with other products (not supplied). This section describes typical system examples with the required components and the main usage of each system.

Operating a Single Camera Using the Supplied Remote Commander

What you can do with this system

Operate the camera readily from a short distance.

System Configuration

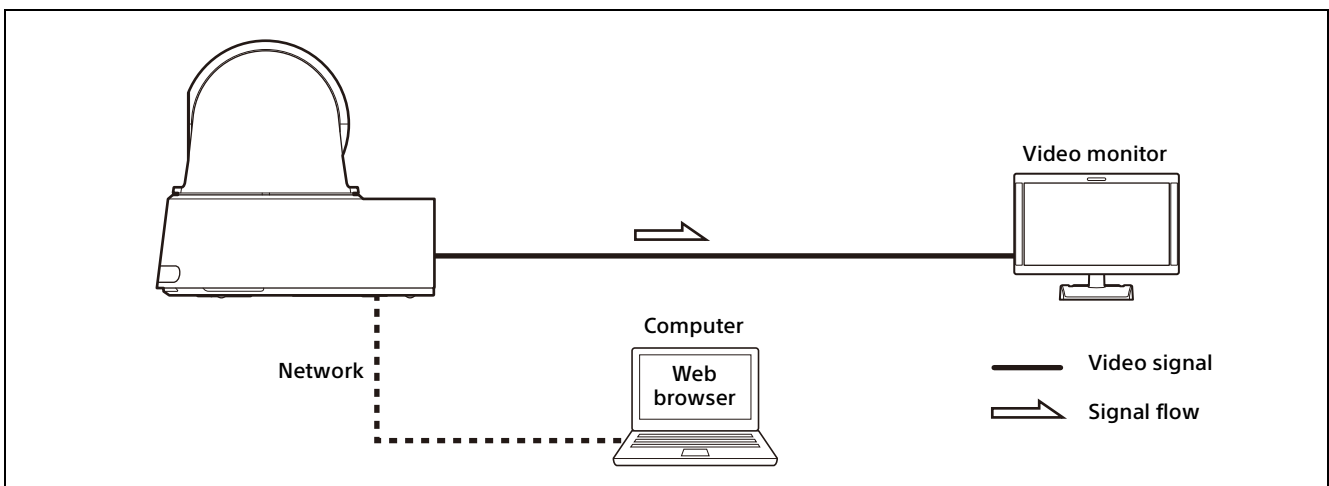


Operating a Single Camera Using the Computer Browser

What you can do with this system

Refer to "Accessing the Camera from a Web Browser" (page 49).

System Configuration

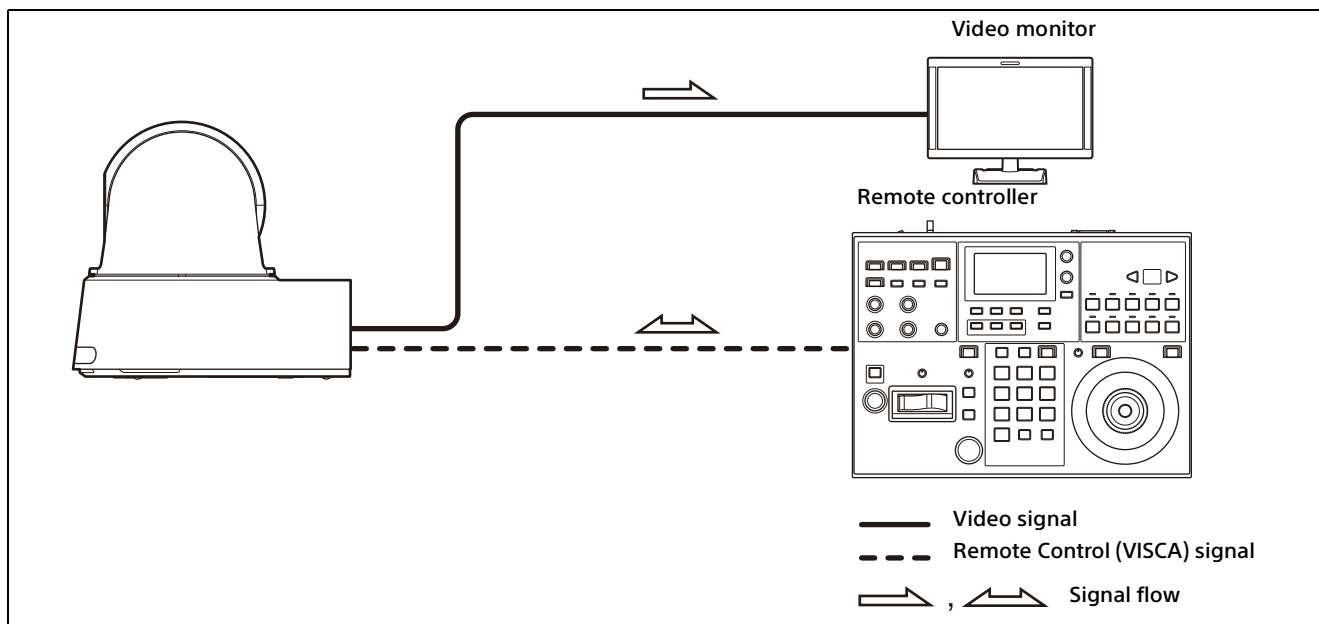


Operating a Single Camera Using the Optional Remote Controller

What you can do with this system

Perform pan/tilt and zoom operations using the joystick of the remote controller.

System Configuration



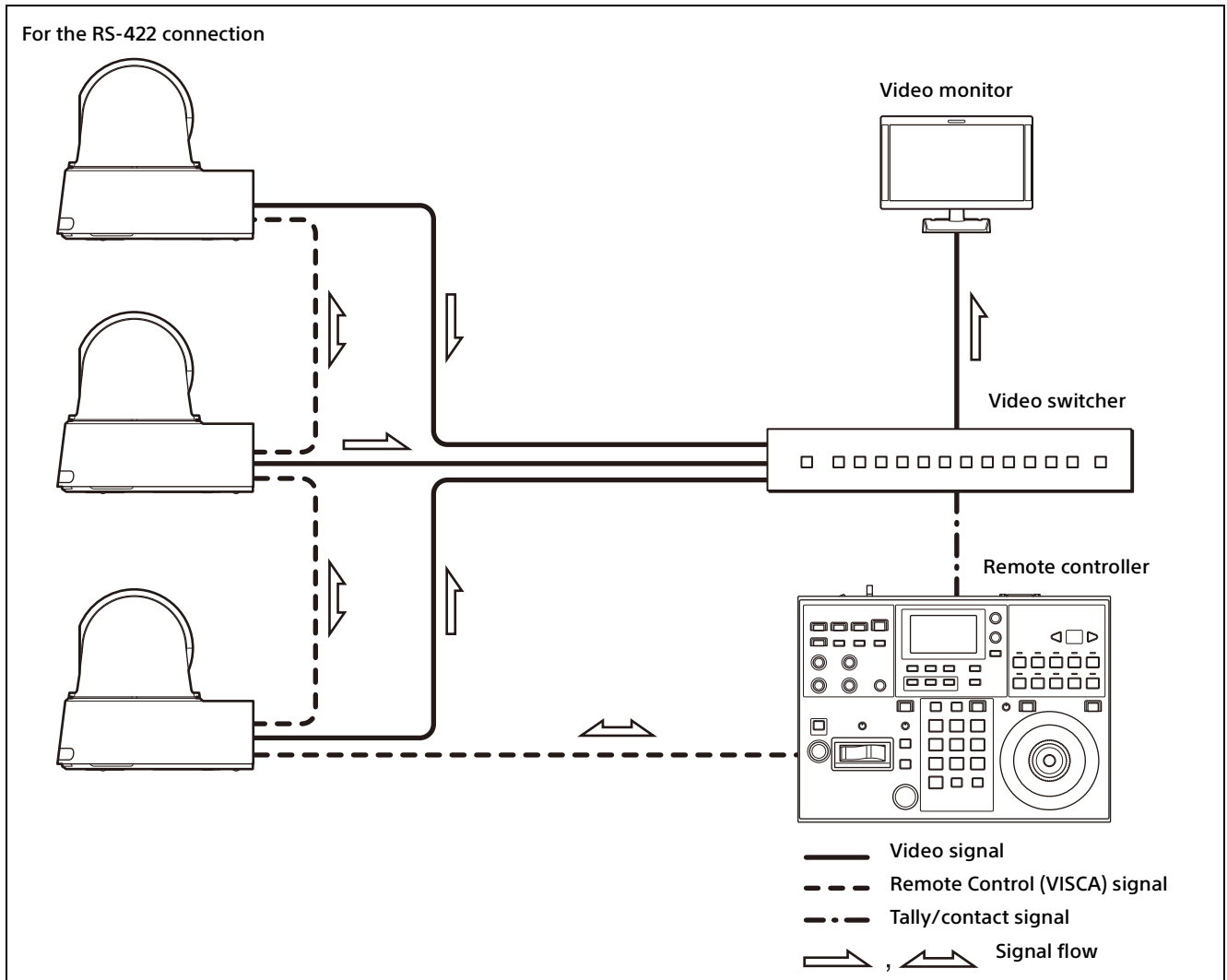
- The illustration of the remote controller features the RM-IP500 (sold separately) remote controller.
- Turn on switch number 3 on the CAMERA SETUP switch when using VISCA communication.

Operating Multiple Cameras Using the Optional Remote Controller

What you can do with this system

- For the RS-422 connection, you can remotely operate up to seven cameras with a single remote controller.
- Perform pan/tilt and zoom operations using the joystick.

System Configuration



- The illustration of the remote controller features the RM-IP500 (sold separately) remote controller.
- Turn on switch number 3 on the CAMERA SETUP switch when using VISCA communication.

Installation and Connection

Installing the Camera

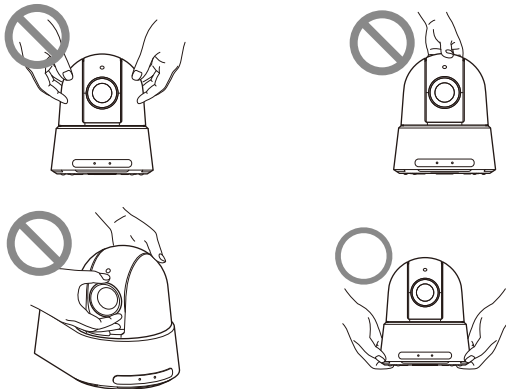
Installing the camera on a desk

Place the camera on a flat surface. If you place the camera on an inclined surface, make sure that the inclination is less than ± 15 degrees to guarantee pan/tilt performance, and take measures to prevent it from falling.



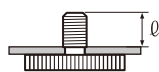
Notes

- Do not grasp the camera head when carrying the camera.
- Do not turn the camera head by hand. Doing so may result in a camera malfunction.



Attaching the Camera to a Tripod

Attach a tripod to the screw hole used for attaching a tripod on the bottom of the camera. The tripod must be set up on a flat surface and its screws tightened firmly by hand. Use a tripod with screws of the following specifications.



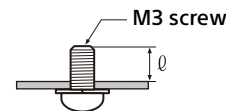
$\varnothing = 4.5$ to 7 mm
 $\varnothing = 0.18$ to 0.27 inches

CAUTION

Installation of the camera using the tripod screws and screw holes should not be done for installation on a ceiling or a shelf, etc., in a high position.

Installing the Camera Using the M3 Fixing Screw Holes

Attach the camera using 4 M3 fixing screw holes located on the bottom of the camera. Attach the camera to a fitting with a flat surface using M3 screws with the following specifications.



$\varnothing = 3$ to 6 mm
 $\varnothing = 0.12$ to 0.25 inches

Installing the camera on the ceiling

Using the supplied ceiling bracket (A)/(B), wire rope, and screws, you can attach the camera to the ceiling. When you install the camera, always install it on a level ceiling. If you install it on a sloping or uneven ceiling, make sure that the place where you install it is within ± 15 degrees of the horizontal surface.

CAUTION

- Entrust installation to an experienced contractor or installer when installing the camera on ceilings or other high locations.
- When installing the camera in a high location, be sure that the location and installation components (excluding the supplied accessories) are strong enough to support the camera and the mounting bracket, and install the camera securely. If the components are not strong enough, the camera may fall and cause serious injury.
- Always install the supplied wire rope to prevent the camera from falling.
- If you install the camera in a high location, check it periodically (at least once a year) to ensure that the connection has not loosened. Depending on your state of use, perform this periodic check more frequently.

Before installing the camera

Determine the shooting direction of the camera, and then make the holes for the ceiling bracket (B) and the connecting cables on the ceiling.

Notes

- The connecting cables cannot be passed through ceiling bracket (B). A hole for the wiring is required in the ceiling at the back of the camera where it is attached to the ceiling.
- The recommended tightening torque for each screw are described in below.
M3: 0.6 N·m (6.1 kgf·cm)
M2.6: 0.4 N·m (4.1 kgf·cm)

Using the supplied URL label

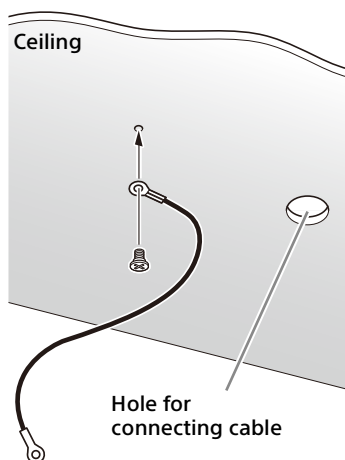
URL and QR code which are printed on the camera's bottom are described on the supplied URL label. When confirming the bottom's label is difficult while being installed, use the supplied URL label. For details, "Accessing the Web App entering the camera's URL" (page 49), "Accessing the Web App using the QR code" (page 49).

Notes

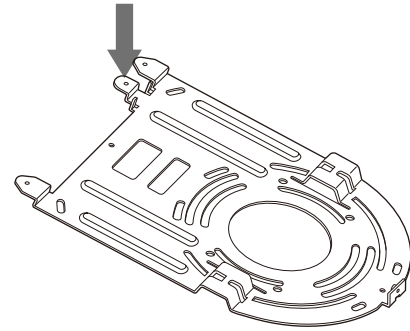
- Use the mDNS*-compliant device to input URL and access to Web App.
 - Use the mDNS*-compliant device to access to the URL by Web App which is read from the QR code.
- * mDNS (multicast DNS): A communication rule (protocol) used to find an IP address from host names in the local network.

How to install the camera

1-1 Attach the wire rope to the ceiling.



1-2 In the case that a wire cannot be attached on the ceiling, attach the wire on the ceiling bracket (B) as illustrated below with the supplied screws (M3×8).

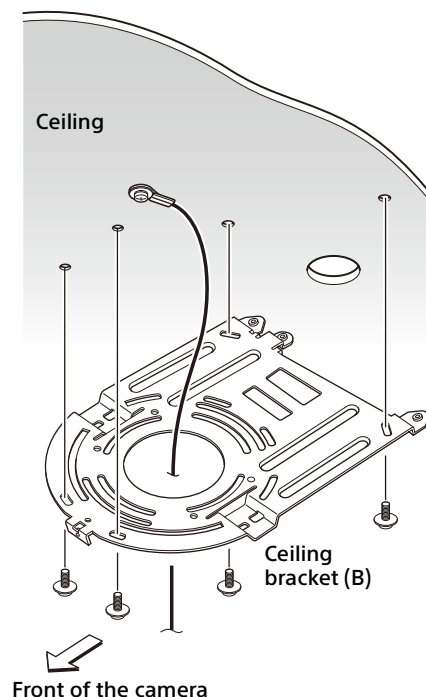


WARNING

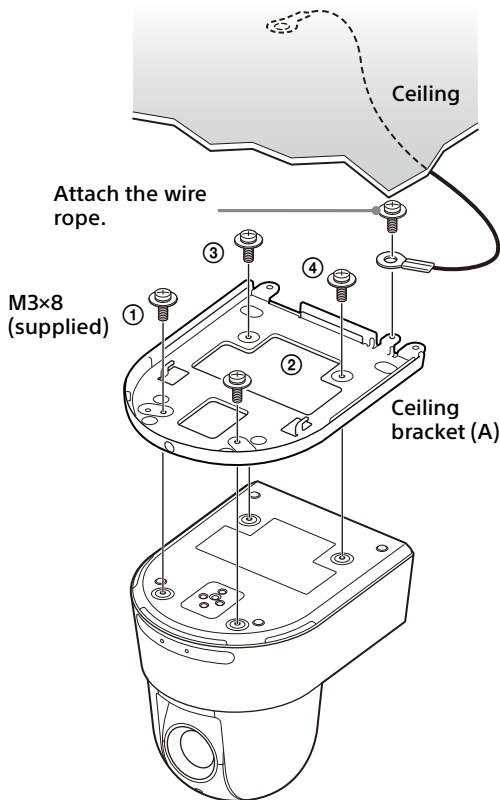
Use the supplied screw. Otherwise, the wire rope may not function properly.

2 Attach the ceiling bracket (B) to the ceiling. When attaching the ceiling bracket (B) to the ceiling, it is recommended to fix them at the 4 positions illustrated below.

There are elongated holes for the screws along the rounded edges of the ceiling bracket (B). Later, the front of the camera will be positioned along this edge. Face the camera to the front, adjust the aim, and attach it securely.



- 3** Attach the ceiling bracket (A) to the bottom of the camera using the 4 supplied screws (M3 × 8). Align the bracket holes with the screw holes on the camera and attach the bracket to the camera.

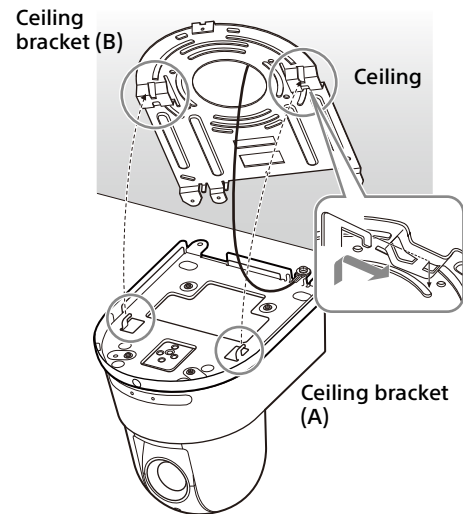


Lightly tighten screws temporarily in the order indicated in the figure. Afterwards, screw each of them firmly.

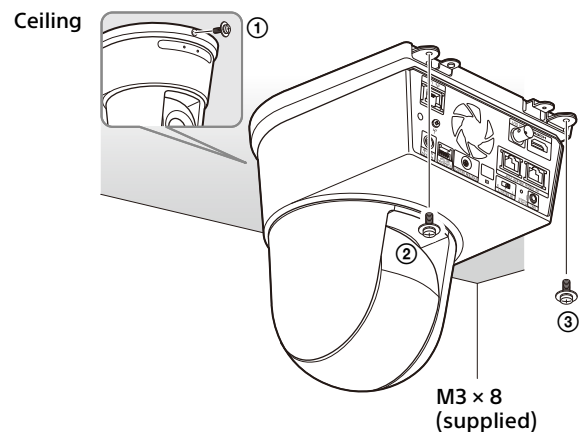
CAUTION

Use the supplied screws. Otherwise, you may break the internal parts of the camera.

- 4** Insert the protrusions raised on the ceiling bracket (A) into the spaces prepared in the ceiling bracket (B), and temporarily attach them by pushing the ceiling bracket (A) to the rear.

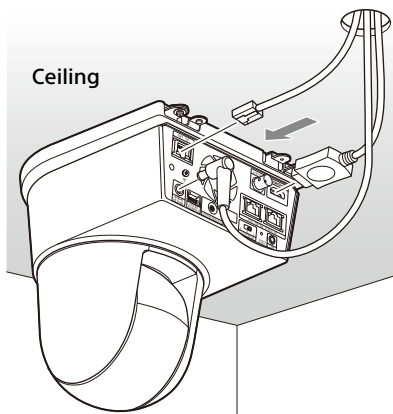


- 5** While pushing up the entire camera, attach it to the ceiling bracket (B) using the 3 supplied screws (M3 × 8).



Lightly tighten the screws temporarily in the order indicated in the figure. Afterwards, screw each of them firmly.

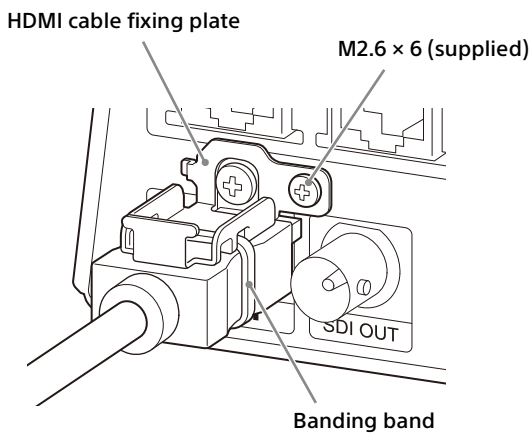
6-1 Connect the cables to the terminals at the back of the camera.



Notes

- Make sure no load is applied to the connectors of the cables.
- For measures that prevent the HDMI cable from being pulled out, proceed to step 6-2 after connecting the HDMI cable. Then, connect all the other cables.
- To prevent the AC adapter cord from coming off, proceed to step 6-3, then connect the other cables.

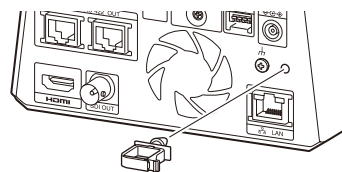
6-2 To prevent the HDMI cable from coming off, mount the HDMI cable fixing plate with the supplied screw (single, M2.6 × 6, black) on the back of the camera, then fix the HDMI cable with a banding band, etc.



Note

Do not attach the HDMI cable on the camera if you will not use it.

6-3 To prevent the AC adapter cord from coming off, attach the supplied cord clammer to the rear of the camera and fix the AC adapter cord.



Note

The cord clammer cannot be replaced once attached to the camera.

7 Adjust the image flip function to optimize the ceiling mounting status.

Note

The preset settings, P/T Range Limit and PTZ Auto Framing setting return to their default settings when the image flip function setting is changed. When setting, make sure to set the image flip function before the preset settings.

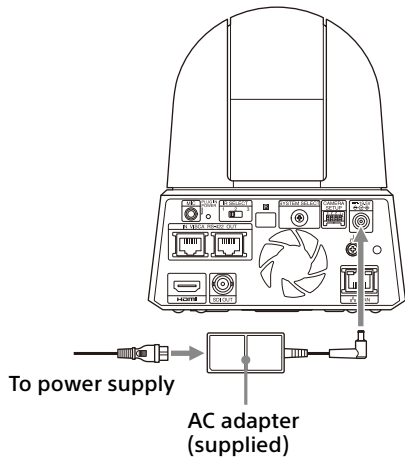
How to remove the camera

- 1** Remove the 3 screws used to attach the camera in step 5 of "How to install the camera".
- 2** While pushing the entire camera up towards the ceiling, move the camera to the front. The hooks will disengage and you can remove the camera.

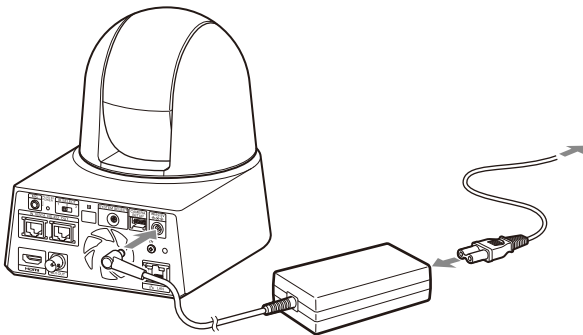
Connecting the Camera

Connecting to an AC power supply

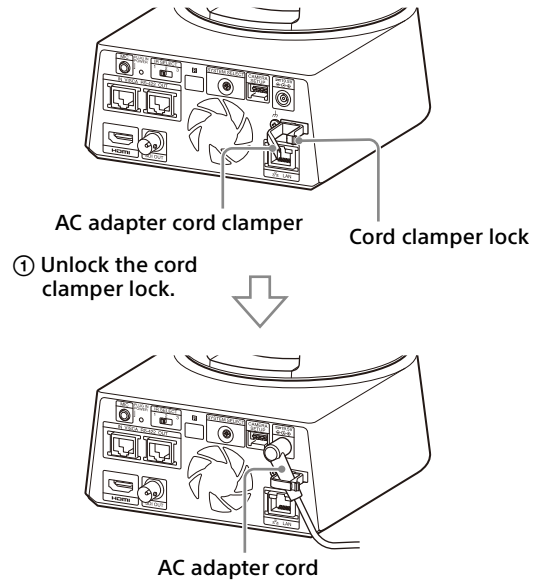
Connect the camera to an AC outlet using the supplied AC adapter and power cord.



- 1 Connect the supplied AC adapter and power cord.



- 2 Fix the AC adapter cord with the cord clamber so that it does not come out. Unlock the cord clamber and put the cord through it.



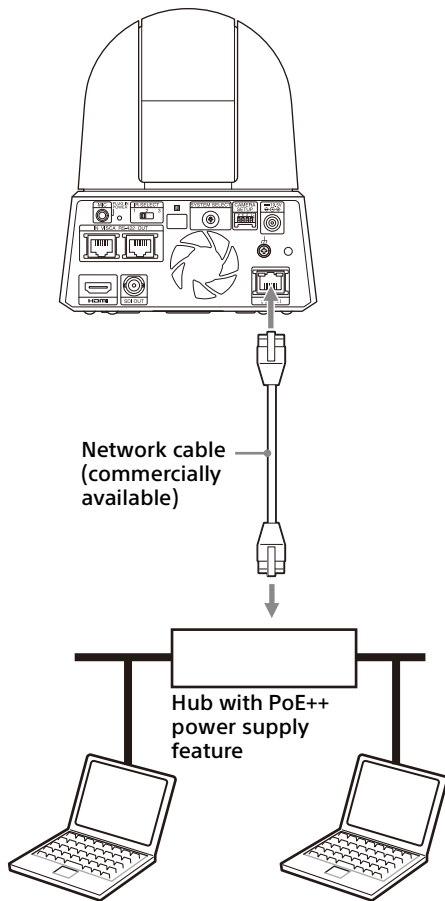
- 2 Put the AC adapter cord through the cord clamber and lock the cord clamber.

Note

Do not use any AC adapter other than the supplied AC adapter. Otherwise, a fire or malfunction may occur.

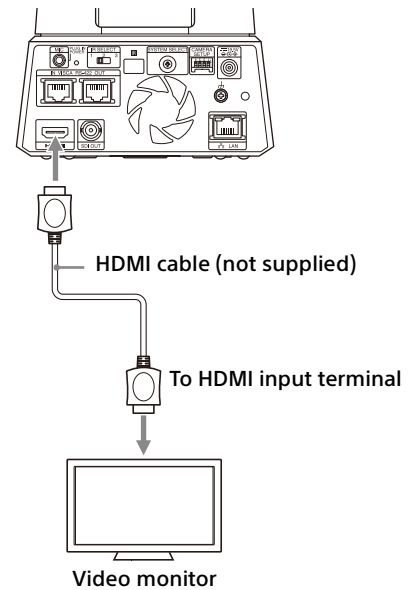
Connecting the camera to a PoE++ (Power over Ethernet Plus Plus) power supply device

A PoE++ (IEEE802.3bt Type 4 Class8 compliant) power supply device supplies power through a commercially available network cable. For details, see the operating instructions of the power supply device.

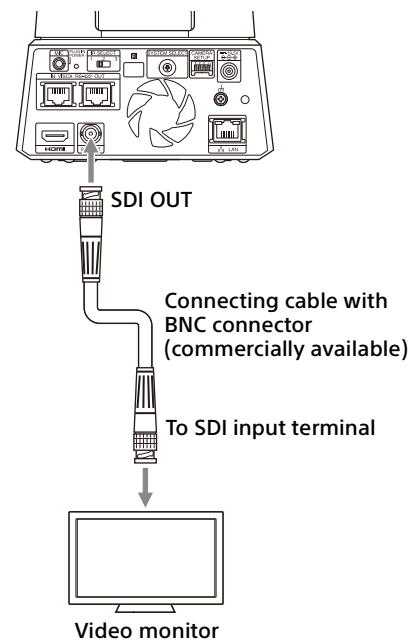


Connecting a single camera to a switcher, recorder, or monitor

Devices equipped with an HDMI input terminal



Devices equipped with an SDI input terminal (HD output):



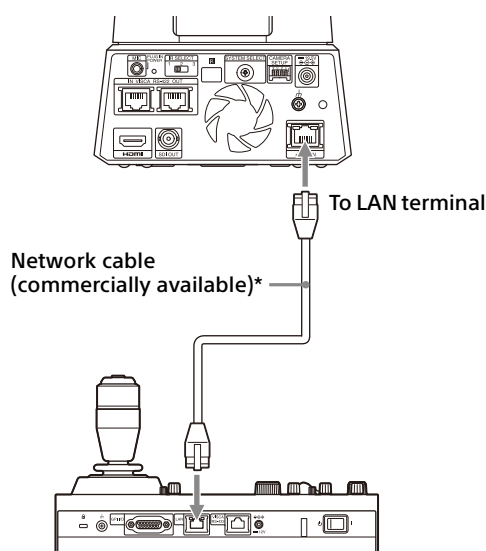
Notes

- When you supply power from a PoE++ power source, use a network cable of Category 5e or higher.
- Do not connect the PoE++ power supply device and the AC adapter at the same time to prevent generating heat.
- When power is supplied from PoE++, both the POWER lamp (green) and NETWORK lamp (green) flash until the initial verification process is complete (approximately 1 minute, depending on the power supply device).
- When the network camera is powered by a PoE++ power supply, do not route the wiring outdoors.
- If a non PoE++ compatible device is connected, both the POWER lamp (green) and NETWORK lamp (green) flash, and the camera won't start.
- When you turn the power off, wait at least 10 seconds before you turn it on again.

Connecting a single camera to a single remote controller (not supplied)

- You cannot switch between VISCA over IP and VISCA RS-422 with the camera. Communication with the remote controller is possible by connecting a network cable.
- Select either VISCA over IP or VISCA RS-422 with the remote controller. For details, see the operating instructions of the remote controller.
- Turn on switch number 3 on the CAMERA SETUP switch when using VISCA communication.

Using VISCA over IP (LAN terminal)

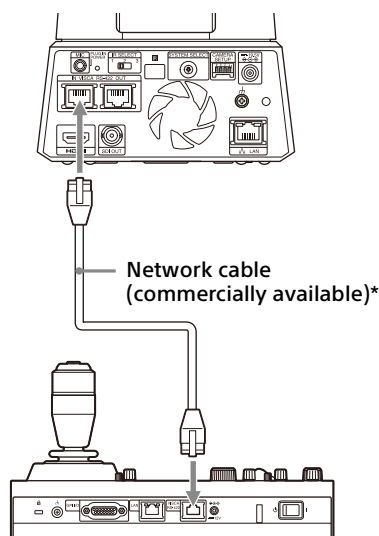


* Use a cross network cable.

The camera network's initial setting is "DHCP." When you connect the camera to the controller directly as shown in the illustration, turn off DHCP and set the IP address.

Using the VISCA RS-422 terminal

A remote controller can be connected via the VISCA RS-422 terminal. The VISCA RS-422 allows connections of up to 1.2 km in length.



* Use a straight network cable.

Notes

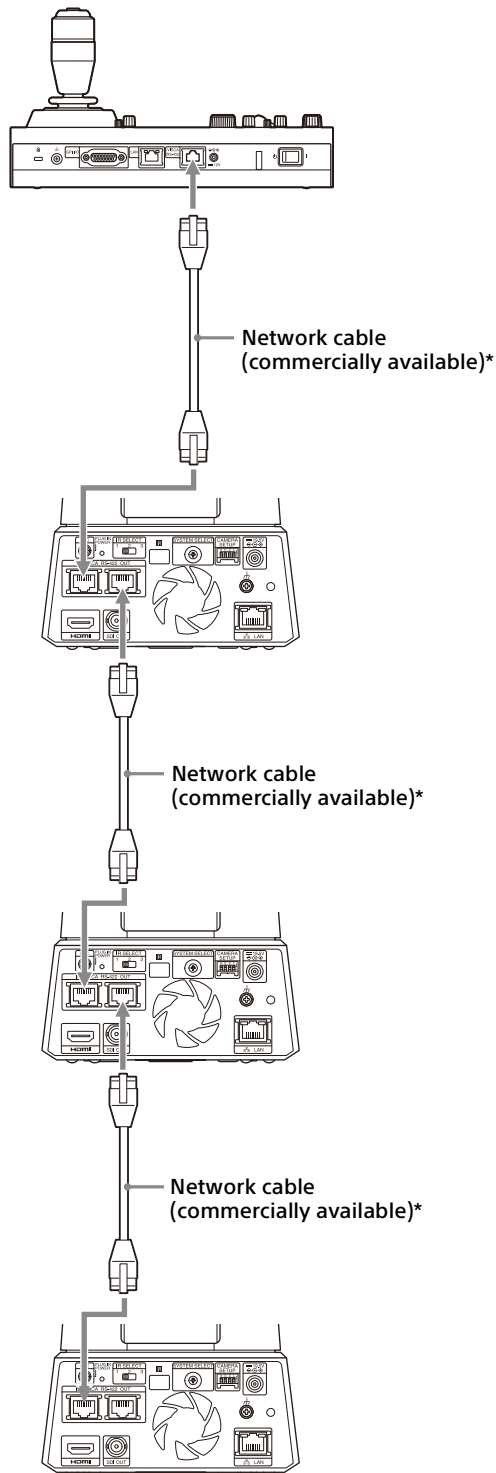
- When RM-IP10 (sold separately) is used as the remote controller, make a connecting cable using the camera and RS-422 terminal board connectors supplied with the remote controller. When you make the connecting cable, refer to the pin array of the VISCA RS-422 terminal (page 104) and VISCA RS-422 connection diagram (page 104).
- Turn on switch number 3 on the CAMERA SETUP switch when using VISCA communication.
- Use the same settings for both switch number 4 on the CAMERA SETUP switch located on the back of the camera and the Baud Rate setting on the remote controller. When the settings differ, the operation cannot be performed correctly.

Connecting multiple cameras to a single remote controller (not supplied)

You cannot switch between VISCA over IP and VISCA RS-422 with the camera. Communication with the remote controller is possible by connecting a network cable. Select either VISCA over IP or VISCA RS-422 with the remote controller. For details, see the operating instructions of the remote controller.

Using the VISCA RS-422 terminal

Up to 7 cameras can be connected via the VISCA RS-422 terminal. The VISCA RS-422 allows connections of up to 1.2 km in length.



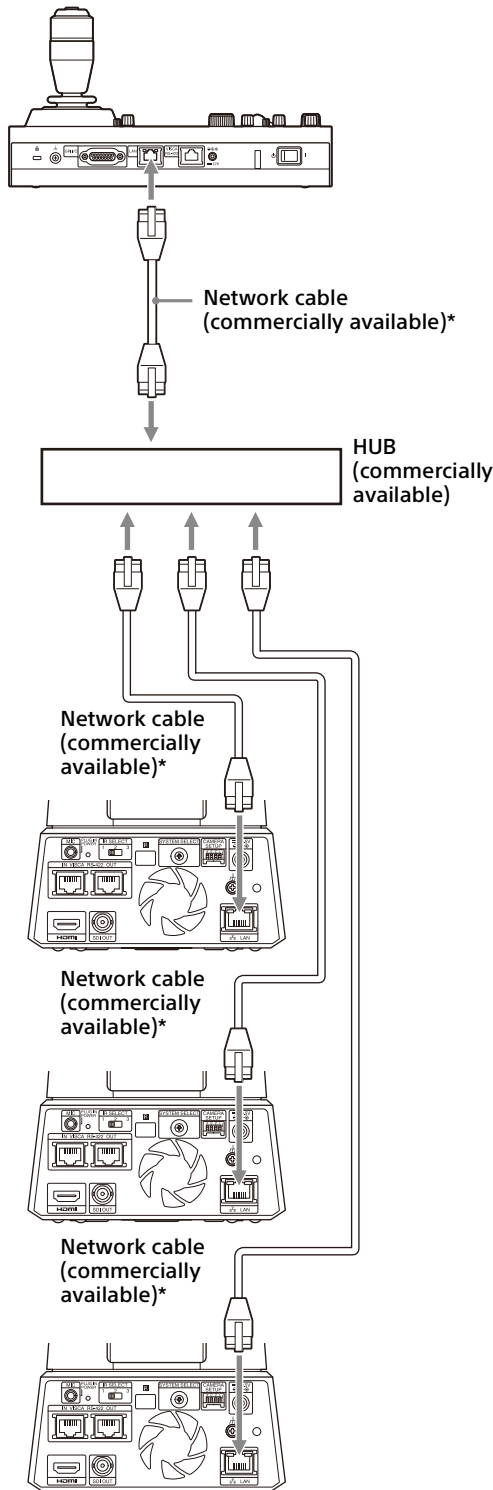
* Use straight network cables.

Notes

- When RM-IP10 (sold separately) is used as the remote controller, make a connecting cable using the RS-422 terminal board connectors supplied with the remote controller. When you make the connecting cable, refer to the pin array of the VISCA RS-422 terminal (page 104) and VISCA RS-422 connection diagram (page 104).
- Turn on switch number 3 on the CAMERA SETUP switch when using VISCA communication.
- Use the same settings for both switch number 4 on the CAMERA SETUP switch located on the back of all the cameras connected and the Baud Rate setting on the remote controller. When the settings differ, the operation cannot be performed correctly.

Connecting multiple cameras using VISCA over IP

- When you connect multiple cameras to a single remote controller or when you connect multiple cameras to multiple remote controllers with a computer, use a switching hub for the connection.
- The camera network's initial setting is "DHCP." When using with the DHCP, also connect a router, which can resolve DHCP issues with the hub. When a router is not used, turn off DHCP and set the IP address.

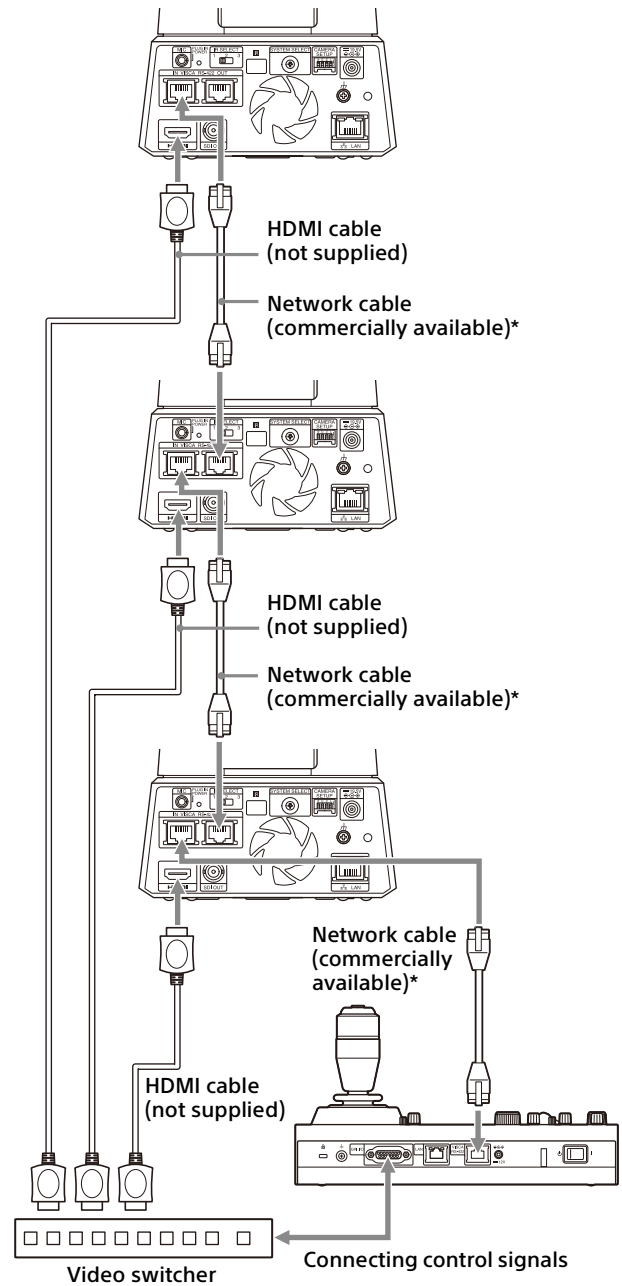


* Use straight network cables.

Connecting a commercially available video switcher

For 4K output (HDMI output only)

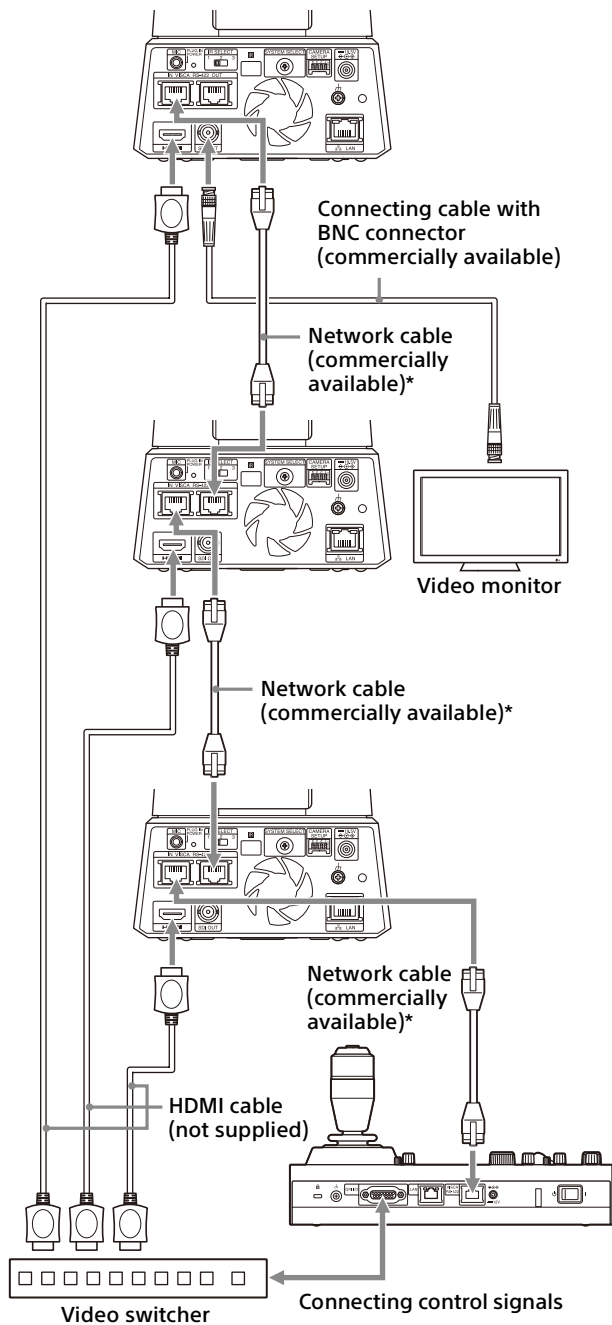
When you want to switch cameras, connect a commercially available video switcher. For the connection to the video switcher, refer to the operating instructions of the switcher.



* Use straight network cables.

For HD output

When you want to switch cameras, connect a commercially available video switcher. For the connection to the video switcher, refer to the operating instructions of the switcher.



* Use straight network cables.

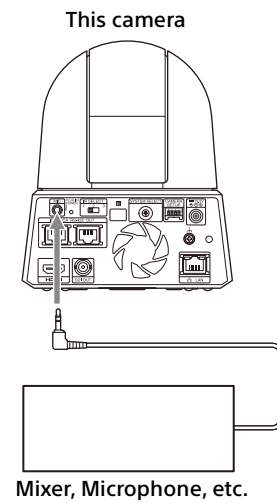
Connecting to commercially-available microphones, etc.

Connect a commercially-available stereo microphone, mixer, etc.

Input audio will be transmitted to the HDMI and SDI OUT output as well as IP network streaming in stereo format.

Switch between the microphone input and line input from the Web App.

Connect a commercially-available stereo microphone when using the microphone input. Connect using the stereo cable from a commercially-available mixer when using the line input.



Notes

- Do not place the camera near devices that may generate noise.
- If you place a microphone near this camera, it may pick up the sound from the camera. Check the audio of the microphone input in advance when installing.
- When microphone input is selected, the camera supplies 2.5 VDC Plug-in-power. Do not connect a non-supported microphone when the microphone input is selected.

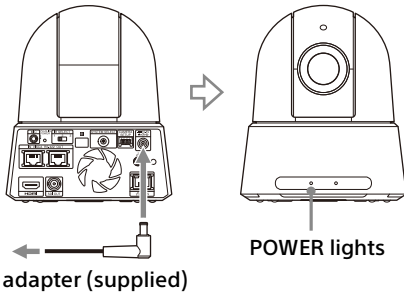
Operations Using the Supplied Infrared Remote Commander

Before Starting Operations

Before operating, check that the camera and peripheral devices are properly installed and connected.

For details, see "Installing the Camera" (page 16) and "Connecting the Camera" (page 20).


Turning on the Power



- 1 **Connect the camera to an AC outlet using the supplied AC adapter and power cord.** Or, connect the powered PoE++ power supply device and the camera with a LAN cable.

The power is turned on and the POWER lamp turns green.

The camera will automatically pan and tilt and then stop to the position stored as PRESET 1 (pan/tilt reset).

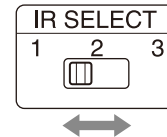
- 2 **Turn on the peripheral devices.** If the  (power) button on the remote commander is pressed while the camera is turned on, the camera goes into the standby mode. The POWER lamp turns from green to orange.

Note

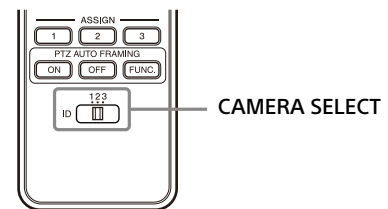
Wait at least 10 seconds if you want to turn on the camera again after putting it in the standby mode.

Operating Multiple Cameras Using the Infrared Remote Commander

- 1 Set the IR SELECT switch on the back of the camera you want to operate to 1, 2, or 3. The setting is reflected immediately.

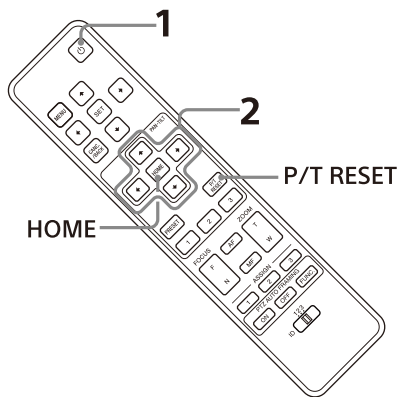


- 2 Select the CAMERA SELECT switch on the remote commander that corresponds to the number set in step 1.



You can operate the specified camera(s).

Pan/Tilt Operation



- 1 Press the $\text{\textcircled{P}}$ (power) button.
The camera will turn on and perform the pan/tilt reset action automatically.
- 2 Press the direction button to pan or tilt the camera.
While checking the picture on the screen, press the appropriate arrow button.
To move the camera little by little, press the button just for a moment.
To move the camera in a wide range, press and hold the button.
To move the camera diagonally, press the \leftarrow or \rightarrow button while holding down the \uparrow or \downarrow button.

To face the camera back to the front

Press the HOME button.

If you accidentally move the camera with your hand

Press the P/T RESET button to perform the pan/tilt reset action.

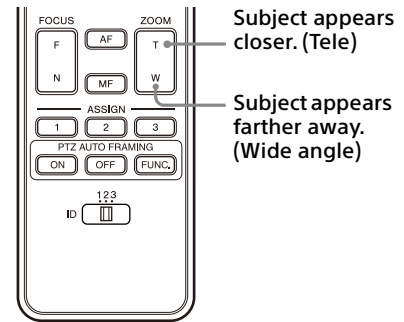
If the POWER lamp and NETWORK lamp on the camera flash simultaneously, and "PAN-TILT ERROR!" is displayed on the OSD menu screen

If the camera is moved by an external shock, or objects or your fingers are caught in the camera, the camera detects the difference in the pan/tilt position, in which case operation automatically stops.

To reset the pan/tilt position, press the P/T RESET button or turn off the camera and turn it on again.

Zoom Operation

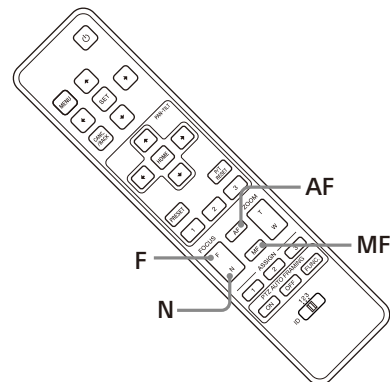
Press either of the ZOOM buttons.



Note

When you perform pan/tilt operations while the camera is in telephoto mode, the moving speed of the image on the screen may be a little jerky.

Focusing on a subject



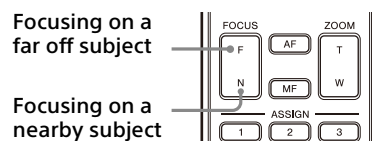
To adjust the focus automatically

Press the AF (Auto Focus) button.

The camera focuses on the subject in the center of the screen automatically.

To adjust the focus manually

After pressing the MF (Manual Focus) button, press either the F (Far) or the N (Near) button to adjust the focus.



Storing the Camera Settings in Memory- Preset Feature

Settings, including the camera position, zoom, focus, and backlighting, can be stored in a preset.

You can also store the presets from Web App or VISCA/CGI commands.

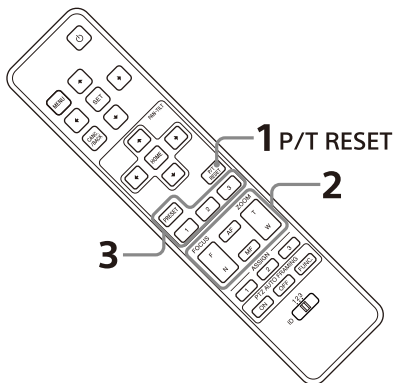
Note

The camera supports up to 256 presets. The number of presets that are supported will vary depending on the device used.

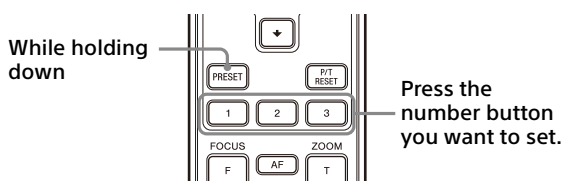
- For the RM-IP500 (sold separately), up to 100.
- For the RM-IP10 (sold separately), up to 16.
- For the remote commander (supplied), up to 3.
- For a Web App, up to 100 positions.
- For VISCA command, up to 100.
- For CGI command, up to 256.

For details on the camera settings that can be preset, see "Preset Items and Image Setting File Items" (page 98).

Storing the camera status



- 1 Press the P/T RESET button to reset the pan/tilt position.
- 2 Adjust the position, zoom, and focus of the camera (See page 27).
- 3 Hold down the PRESET button and press any of the 1 to 3 buttons, in which you want to store the settings.



Note

Before you store the position, zoom, focus, etc. of the camera, make sure to install and secure the camera in place to use it properly.

Recalling the stored status

Press any of the 1 to 3 buttons in which you have stored the settings.

Notes

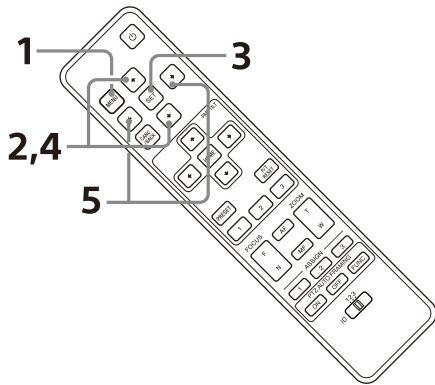
- When the pan/tilt position is set to PRESET1, the camera moves to the PRESET1 position at startup.
- Storing or clearing the settings in PRESET 1 takes about 2 seconds longer than for other preset operations.
- When you are storing or clearing the settings in one PRESET, you cannot restore, store, or clear the settings in another PRESET.
- For details on the items that can be cleared from the memory, see "Preset Items and Image Setting File Items" (page 98).
- You can register or delete the preset even while the OSD menu is being displayed.
- Note that if you change the image flip setting, the set preset will be cleared.
- The supplied remote commander does not have the function to remove the preset memories. Therefore, remove the memories using Web App, VISCA/CGI commands, or the remote controller (sold separately), or overwrite the memory on the same position.

Operating OSD (On-Screen Display) Menus

This section explains how to configure the camera using the supplied remote commander. In this manual, the displayed setting menu is written as the OSD (On Screen Display).

For details on the OSD menu items, refer to page 31 through page 43.

Displaying an OSD menu



- 1** Press the **MENU** button.
The main menu is displayed.
- 2** Use the **↑** or **↓** button to move the cursor to the menu item you want to change.
- 3** Press the **SET** button.
The selected menu is displayed.
- 4** Use the **↑** or **↓** button to move the cursor to the setting item you want to change.
- 5** Use the **←** or **→** button to change the set value.

Notes

- [IR RECEIVE] cannot be set to [OFF] in the SYSTEM menu when you operate the OSD menu with the supplied remote commander. Set [IR RECEIVE] to [OFF] either using the remote controller (sold separately) or from the Web App menu.
- The OSD menu is not displayed on the SDI output image when the [Menu Overlay (SDI)] check box on the Web App menu is not selected.
- The OSD menu is not displayed on the HDMI output image when the [Menu Overlay (HDMI)] check box on the Web App menu is not selected.

Returning to the main menu

Press the MENU or CANCEL/BACK button.

Canceling an OSD menu

When the main menu is displayed, press the MENU or CANCEL/BACK button once. When a setting menu is displayed, press the MENU or CANCEL/BACK button twice.

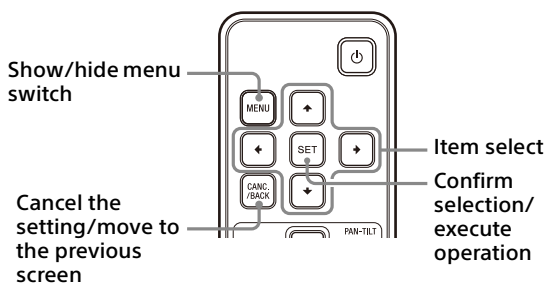
Adjusting and Configuring the Camera through On-Screen Menus

About On-Screen Menus

You can configure the shooting conditions and system setup of the camera from the menus displayed on an external monitor. Display setting menus are described as OSD menus in this document.

Menu operations can be performed using the supplied remote commander or a remote controller (sold separately).

For details, refer to the operating instructions of the remote controller.



This section explains how to read the on-screen display menus before starting menu operations.

For the overall on-screen display menu configurations, see page 45.

You can configure the camera from both the OSD menu and the Web App. Bracketed text on the right of the setting item indicates the setting item name of the Web App. Values to be selected in the OSD menu are noted in square brackets [].

Note

The OSD menus are output through SDI OUT and HDMI.

Confirming selection of menu items and settings/Executing operations

Icons for buttons used for setup operations are displayed along the bottom of the currently displayed menu screen.

SELECT or **SELECT**: Indicates use of the $\uparrow/\downarrow/\leftarrow/\rightarrow$ buttons to select menu items and settings. These correspond to the joystick directions on a remote controller.

ENTER/NEXT: Indicates use of the SET button (equivalent to ENTER) to confirm the menu item or setting selection, or to advance to the next screen or next operation. This corresponds to the joystick button on a remote controller.

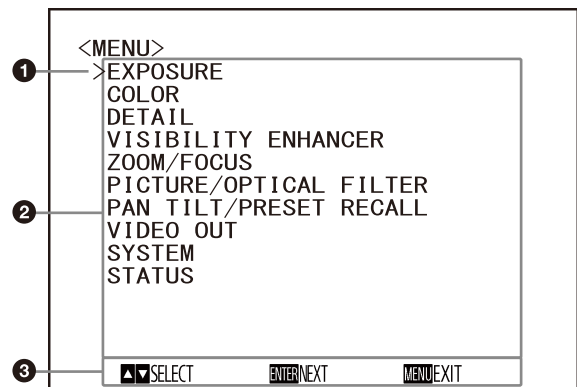
MENU/EXIT: Indicates use of the MENU button or CANCEL/BACK button (equivalent to MENU) to show/hide the menu screen.

MENU/BACK: Indicates that you can return to the main menu by pressing the MENU button.

The method used to display the menu will vary depending on the remote controller model. Refer to the operating instructions of the remote controller (sold separately).

Main menu

Press the MENU button on the supplied remote commander to display the main menu.



The above menu is SRG-A40's main menu. ZOOM/FOCUS is FOCUS on SRG-A12's menu.

1 Cursor

The cursor selects a setting menu. Press the \uparrow or \downarrow button of the remote commander to move the cursor up or down.

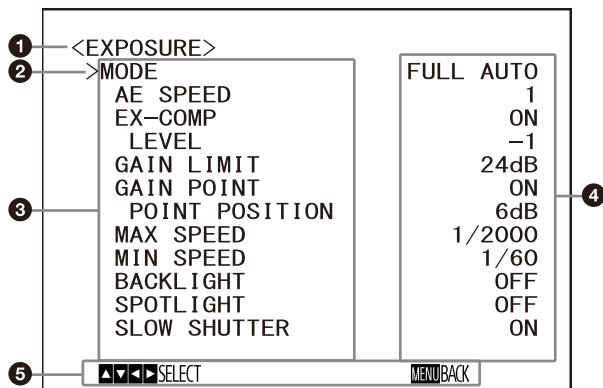
2 Menu items

Press the \uparrow or \downarrow button of the remote commander to select a setting menu, and then press the SET button to display the selected setting menu.

3 Control button display section

Setting menu

The setting menu selected on the main menu is displayed.



1 Setting menu

The name of the setting menu currently selected is displayed.

2 Cursor

The cursor selects a setting item.
Press the \uparrow or \downarrow button of the remote commander to move the cursor up or down.

3 Setting items

The setting items for this setting menu are displayed.
Press the \uparrow or \downarrow button of the remote commander to select a setting item. Press the \leftarrow or \rightarrow button to change the set value.

4 Set value

The current set values are displayed.
Press the \leftarrow or \rightarrow button of the remote commander to change the set value.

5 Control button display section

For the default value of each setting item, see "Menu Configuration" (page 45).

Status

Display the items selected in the menu and device information.

EXPOSURE Menu

The EXPOSURE menu is used to set the items regarding the exposure.

You can set the menu from the Web App menu. For details, see [Exposure] under [Video] (page 70).

Item	Value
MODE	FULL AUTO
AE SPEED	1
EX-COMP	ON
LEVEL	-1
GAIN LIMIT	24dB
GAIN POINT	ON
POINT POSITION	6dB
MAX SPEED	1/2000
MIN SPEED	1/60
BACKLIGHT	OFF
SPOTLIGHT	OFF
SLOW SHUTTER	ON

MODE (Exposure - Mode)

[FULL AUTO]: The exposure is adjusted automatically using the gain, electronic shutter speed, and iris setting.

[MANUAL]: You can manually adjust the gain, electronic shutter speed, and iris setting individually.

[SHUTTER Pri]: You can adjust the electronic shutter speed manually. Automatically adjusts the exposure using the gain and iris.

[IRIS Pri]: You can adjust the iris setting manually. Automatically adjusts the exposure using the gain and electronic shutter speed.

When you select any of the above modes, you will see available options for the selected mode among the following setting items.

GAIN (Exposure - Gain)

Select the gain.

When [MODE] is [MANUAL], you can choose a value from 0 to 36 dB (in 3 dB increments). When high-sensitivity mode is set to ON, the available range is expanded from 0 to 48 dB (in 3 dB increments).

Note

When the high-sensitivity mode is set to ON, the available setting range differs. High-sensitivity mode is set to OFF at the factory settings. To turn it ON, use the VISCA command.

SPEED (Exposure - Shutter Speed)

When [MODE] is either [MANUAL] or [SHUTTER Pri], select the electronic shutter speed.

When the frame rate is 59.94 or 29.97

You can choose from [1/1], [2/3], [1/2], [1/3], [1/4], [1/6], [1/8], [1/10], [1/15], [1/20], [1/30], [1/50], [1/60], [1/90], [1/100], [1/125], [1/180], [1/250], [1/350], [1/500], [1/725], [1/1000], [1/1500], [1/2000], [1/3000], [1/4000], [1/6000], [1/10000].

When the frame rate is 50 or 25

You can choose from [1/1], [2/3], [1/2], [1/3], [1/4], [1/6], [1/8], [1/12], [1/15], [1/20], [1/25], [1/30], [1/50], [1/60], [1/100], [1/120], [1/150], [1/215], [1/300], [1/425], [1/600], [1/1000], [1/1250], [1/1750], [1/2500], [1/3500], [1/6000], [1/10000].

When the frame rate is 23.98

You can choose from [1/1], [2/3], [1/2], [1/3], [1/4], [1/6], [1/8], [1/12], [1/20], [1/24], [1/25], [1/40], [1/48], [1/50], [1/60], [1/96], [1/100], [1/120], [1/144], [1/192], [1/200], [1/288], [1/400], [1/576], [1/1200], [1/2400], [1/4800], [1/10000].

IRIS (Exposure - Iris)

When [MODE] is either [MANUAL] or [IRIS Pri], you can change the iris setting.

You can choose from [F2.0], [F2.2], [F2.4], [F2.6], [F2.8], [F3.1], [F3.4], [F3.7], [F4.0], [F4.4], [F4.8], [F5.2], [F5.6], [F6.2], [F6.8], [F7.3], [F8.0], [F8.7], [F9.6], [F10], [F11], [CLOSE].

AE SPEED (Exposure - AE Speed)

Select the adjustment speed for exposure adjustment.

You can adjust the speed at which the camera reaches the optimum exposure setting from [1] (standard) to [48] (slow). Adjust this when the brightness of the object changes instantaneously.

This setting is available when [MODE] is [FULL AUTO], [SHUTTER Pri], or [IRIS Pri].

EX-COMP (Exposure - Exposure Compensation)

Turn this [ON] when you want to correct the brightness of a picture whose exposure is already automatically adjusted. This setting is available when [MODE] is [FULL AUTO], [SHUTTER Pri], or [IRIS Pri]. The [LEVEL] setting is displayed when this is turned [ON].

LEVEL (Exposure - Exposure Compensation)

Set a level to adjust the brightness of a picture whose exposure is already automatically adjusted. Choose a value from [-7] to [+7] for the level.

This is not displayed when [EX-COMP] is turned [OFF].

GAIN LIMIT (Exposure - AGC Limit)

Set the maximum gain when the exposure is automatically adjusted using gain. Choose a value from [9dB] to [36dB] (in 3 dB increments). When high-sensitivity mode is set to ON, the available range is expanded from [21dB] to [48dB] (in 3 dB increments).

This setting is available when [MODE] is [FULL AUTO], [SHUTTER Pri], or [IRIS Pri]. You cannot choose a value smaller than the [POINT POSITION] setting.

GAIN POINT (Exposure - Gain Point)

When you set [MIN SPEED] to be slower than the output image frame rate, the shutter speed controls exposure based on the [GAIN POINT] setting. Normally, when the exposure is controlled with gain, noise becomes prominent if gain is increased to make the image brighter. You can decrease noise by adjusting the exposure with lower shutter speeds after canceling gain adjustments. When you do this, set [GAIN POINT] to [ON] and set the [POINT POSITION] to the gain at which you want the shutter speed to change. When the shutter speed reaches [MIN SPEED] for exposure adjustment, the gain will increase to adjust exposure. This setting is available when [MODE] is either [FULL AUTO] or [IRIS Pri].

POINT POSITION (Exposure - Gain Point Level)

This is enabled when [GAIN POINT] is turned [ON]. When the gain during exposure adjustment reaches the value for [POINT POSITION], the exposure is adjusted through a slower shutter speed. This setting is available when [MODE] is either [FULL AUTO] or [IRIS Pri]. You cannot choose a value smaller than the [GAIN] setting.

MAX SPEED (Exposure - Auto Shutter Limit (Fastest))

Set the maximum (fastest) shutter speed when exposure is automatically adjusted with the electronic shutter.

This setting is available when [MODE] is either [FULL AUTO] or [IRIS Pri]. You cannot choose a value slower than [MIN SPEED].

When the frame rate is 59.94 or 29.97

You can choose from [1/30], [1/50], [1/60], [1/90], [1/100], [1/125], [1/180], [1/250], [1/350], [1/500], [1/725], [1/1000], [1/1500], [1/2000], [1/3000], [1/4000], [1/6000], [1/10000].

When the frame rate is 50 or 25

You can choose from [1/25], [1/30], [1/50], [1/60], [1/100], [1/120], [1/150], [1/215], [1/300], [1/425], [1/600], [1/1000], [1/1250], [1/1750], [1/2500], [1/3500], [1/6000], [1/10000].

When the frame rate is 23.98

You can choose from [1/24], [1/25], [1/40], [1/48], [1/50], [1/60], [1/96], [1/100], [1/120], [1/144], [1/192], [1/200], [1/288], [1/400], [1/576], [1/1200], [1/2400], [1/4800], [1/10000].

MIN SPEED (Exposure - Auto Shutter Limit (Slowest))

Set the minimum (slowest) shutter speed when the exposure is adjusted with the electronic shutter.

This setting is available when [MODE] is either [FULL AUTO] or [IRIS Pri]. You cannot choose a value faster than [MAX SPEED].

When the frame rate is 59.94 or 29.97

You can choose from [1/1], [2/3], [1/2], [1/3], [1/4], [1/6], [1/8], [1/10], [1/15], [1/20], [1/30], [1/50], [1/60], [1/90], [1/100], [1/125], [1/180], [1/250], [1/350], [1/500], [1/725], [1/1000], [1/1500], [1/2000], [1/3000], [1/4000], [1/6000], [1/10000].

When the frame rate is 50 or 25

You can choose from [1/1], [2/3], [1/2], [1/3], [1/4], [1/6], [1/8], [1/12], [1/15], [1/20], [1/25], [1/30], [1/50], [1/60], [1/100], [1/120], [1/150], [1/215], [1/300], [1/425], [1/600], [1/1000], [1/1250], [1/1750], [1/2500], [1/3500], [1/6000], [1/10000].

When the frame rate is 23.98

You can choose from [1/1], [2/3], [1/2], [1/3], [1/4], [1/6], [1/8], [1/12], [1/20], [1/24], [1/25], [1/40], [1/48], [1/50], [1/60], [1/96], [1/100], [1/120], [1/144], [1/192], [1/200], [1/288], [1/400], [1/576], [1/1200], [1/2400], [1/4800], [1/10000].

BACKLIGHT (Exposure - Backlight Compensation)

This menu allows you to enable/disable backlight compensation so that exposure is optimized for backlight. You can choose either [ON] or [OFF].

This setting is available when [MODE] is [FULL AUTO], [SHUTTER Pri], or [IRIS Pri].

SPOTLIGHT (Exposure - Spotlight Compensation)

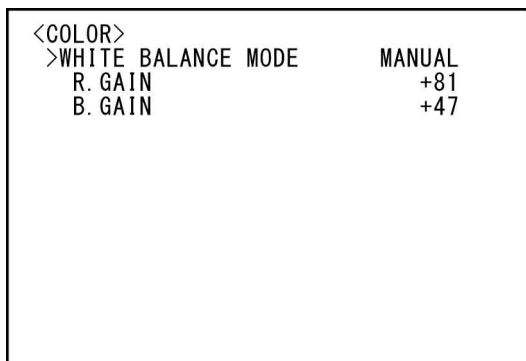
This menu allows you to enable/disable spotlight compensation by adjusting the exposure darker when a part of the object, such as a person's face in a spotlight, is bright. You can choose either [ON] or [OFF]. This setting is available when [MODE] is [FULL AUTO], [SHUTTER Pri], or [IRIS Pri]. [SPOTLIGHT] becomes disabled when [BACKLIGHT] is [ON].

SLOW SHUTTER (Exposure - Auto Slow Shutter)

When you set the mode to [ON], the camera automatically uses a slow shutter speed for the exposure as the illumination of the object to be shot decreases. This menu is available when [MODE] is [FULL AUTO] or [IRIS Pri].

COLOR Menu

The COLOR menu is used to adjust the white balance and color. You can set the menu from the Web App menu. For details, see [White Balance] under [Video] (page 73).



WHITE BALANCE MODE (White Balance - Mode)

Select a white balance mode. You can choose from [AUTO1], [AUTO2], [INDOOR], [OUTDOOR], [ONE PUSH], and [MANUAL].

- [AUTO1]:** Automatically adjusts the color to be closest to the image you are viewing.
- [AUTO2]:** Automatically adjusts the white balance to reproduce the original colors of the objects, eliminating the influences of ambient illumination.
- [INDOOR]:** Fixes R/B GAIN when the color temperature is 3200 K.
- [OUTDOOR]:** Fixes R/B GAIN when the color temperature is 5800 K.
- [ONE PUSH]:** White balance is adjusted when the ONE PUSH trigger command is received. When you operate from the remote controller, press the O.P.AWB button on RM-IP500 or the ONE PUSH AWB button on RM-IP10. Shoot a large white object in the center of the screen before adjustment. White balance is adjusted when you press the SET button on the supplied remote commander or the joystick top button on the remote controller while [ONE PUSH] is selected in [WHITE BALANCE MODE] on the menu screen.
- [MANUAL]:** Allows you to manually adjust the white balance.

When you select any of the above modes, you will see available options for the selected mode among the following setting items.

SPEED (White Balance - Speed)

Adjust the speed at which the camera reaches the white convergence point when [AUTO1] or [AUTO2] is chosen. Choose a value from [1], [2], [3], [4], and [5]. [5] is the fastest and [1] is the slowest.

OFFSET (White Balance - Offset)

The shift amount of the white convergence point can be adjusted when [WHITE BALANCE MODE] is [AUTO1], [AUTO2], or [ONE PUSH]. The range is from [-7] to [0] to [+7]. White balance is shifted towards blue when a negative value is chosen, and it is shifted towards red when a positive value is chosen.

R.GAIN (White Balance - R Gain)

B.GAIN (White Balance - B Gain)

Displayed when [MANUAL] is chosen. White balance can be manually adjusted within the range from [-128] to [+127].

DETAIL Menu

The DETAIL menu is used to adjust the image enhancer function.

You can set the menu from the Web App menu. For details, see [Detail / NR] under [Video] (page 73).

<DETAIL>	
>MODE	MANUAL
LEVEL	0
BAND WIDTH	DEFAULT
CRISPENING	0
HV BALANCE	0
BW BALANCE	TYPE2
LIMIT	3
HIGHLIGHT DETAIL	0
SUPER LOW	3

MODE (Detail - Mode)

When you choose [AUTO], a contour correction signal is automatically added.

When you want to make adjustment by yourself, choose [MANUAL].

Only [LEVEL] will be displayed when you choose [AUTO].

LEVEL (Detail - Level)

You can set the volume of the contour correction signal. Choose a value from [-7] to [0] to [+8]. The greater the value, the stronger the contour correction signal.

BAND WIDTH (Detail - Bandwidth)

You can set the bandwidth for signals undergoing contour emphasis. Choose a bandwidth from [DEFAULT], [LOW], [MIDDLE], [HIGH], and [WIDE]. For example, when you choose [MIDDLE], the middle range of the signals is elevated, and contours in that middle range are emphasized.

CRISPENING (Detail - Crispening)

You can choose the fineness for the objects to which contour correction signals are added. Choose a value from [0] to [7]. When you choose a higher value, minute contour correction signal elements are removed, and only the high level contour correction signals, which reduce noise, are left. When you choose a lower value, minute contour correction signal elements, which increase noise, are added to the picture.

HV BALANCE (Detail - HV Balance)

You can choose the ratio for horizontal and vertical contour correction signal elements. Choose a value from [-2] to [0] to [+2]. When you choose a higher value, the horizontal contour

correction elements become greater compared to the vertical elements.

BW BALANCE (Detail - BW Balance)

You can adjust the balance between contours in black on the low brightness side of the spectrum and contours in white on the high brightness side. Choose from [TYPE0] to [TYPE4]. The ratio of contours in black is higher for [TYPE0] while the ratio of contours in white is higher for [TYPE4].

LIMIT (Detail - Limit)

You can set the maximum value for the amount of contour emphasis in black on the low brightness side of the spectrum and in white on the high brightness side. Choose a value from [0] to [7].

HIGHLIGHT DETAIL (Detail - Highlight Detail)

You can adjust the level of contour added to brightly-lit objects. Choose a value from [0] to [4]. The higher the value, the greater the contour emphasis. Adjust this when you want to emphasize the contour of a brightly-lit object in a bright background.

SUPER LOW (Detail - Super Low)

Emphasizes contours in the super low range. Choose a value from [0] to [7]. The greater the value, the greater the contour emphasis. Contrast and resolution increase.

VISIBILITY ENHANCER Menu

You can set the menu from the Web App menu. For details, see [Exposure] under [Video] (page 70).

<VISIBILITY ENHANCER>	
>SETTING	ON
EFFECT	0

SETTING (Exposure - Visibility Enhancer)

When this is turned [ON], gradation correction is adaptively performed according to the scene being shot.

EFFECT (Exposure - Effect)

You can adjust the brightness of the shadows on the screen. Choose a value from [-3] to [0] to [+3].

ZOOM/FOCUS Menu (SRG-A40)

The ZOOM/FOCUS menu is used to select the zoom/focus mode.

You can set the zoom mode from the Web App menu.

For details, see [PTZF Control] under [PTZF Control] (page 85).

<ZOOM/FOCUS>	
ZOOM	
>MODE	CLEAR IMAGE ZOOM
FOCUS	
MODE	AUTO

ZOOM

MODE (Zoom - Zoom Mode)

Select the zoom mode.

[OPTICAL]: Zooms objects within the optical zoom range (up to 20x) of the camera.

[CLEAR IMAGE ZOOM] (Clear Image Zoom): An image is zoomed in with less deterioration of image quality over the optical region. Zooming is up to 1.5x when the video output format is 3840x2160, and up to 2x for other formats.

[DIGITAL]: An image can be zoomed in up to 20x optical zoom and 12x digital zoom (including Clear Image Zoom) with up to a total of 240x zoom.

Note

When the zoom mode setting is changed, set [Start Position] and [Detection Settings] of [PTZ Auto Framing Settings] again.

FOCUS

MODE (Live operation screen - Main tab)

Select the focus mode.

[AUTO]: The camera focuses automatically.

[MANUAL]: You can focus manually. Adjust using the supplied remote commander or optional remote controller.

Notes

Select [MANUAL] and adjust the focus manually when shooting the following objects.

- White walls and other objects without contrast
- Objects behind glass

- Objects with horizontal stripes
- Objects on which bright lights are cast or reflected
- Nightscapes and other dark objects with blinking lights
- Lit objects shot with darkened exposure adjustment or exposure compensation settings

FOCUS Menu (SRG-A12)

The FOCUS menu is used to select the focus mode.

You can set the menu from the Web App menu. For details, see [PTZF Control] under [PTZF Control] (page 85).



MODE (Live operation screen - Main tab)

Select the focus mode.

[AUTO]: The camera focuses automatically.

[MANUAL]: You can focus manually. Adjust using the supplied remote commander or optional remote controller.

Notes

Select [MANUAL] and adjust the focus manually when shooting the following objects.

- White walls and other objects without contrast
- Objects behind glass
- Objects with horizontal stripes
- Objects on which bright lights are cast or reflected
- Nightscapes and other dark objects with blinking lights
- Lit objects shot with darkened exposure adjustment or exposure compensation settings

PICTURE/OPTICAL FILTER

Menu

The PICTURE/OPTICAL FILTER menu is used to adjust picture quality improvement features and optical filters.

You can set the menu from the Web App menu. For details, see [Detail / NR], [Day/Night ICR] or [Others] under [Video] (page 69).

<PICTURE/OPTICAL FILTER>	
PICTURE	
HIGH RESOLUTION	OFF
>NOISE REDUCTION	ADVANCED
2D NR LEVEL	3
3D NR LEVEL	3
FLICKER CANCEL	ON
IMAGE STABILIZER	ON
OPTICAL FILTER	
IR CUT FILTER	NIGHT

PICTURE

HIGH RESOLUTION (Detail / NR - High Resolution Mode)

You can set [HIGH RESOLUTION] (High resolution mode) to [ON] or [OFF]. When set to [ON], you can enjoy emphasized edge and high-resolution images.

Notes

- When set to [ON], image noise may increase more than when set to [OFF].
- When [MODE] is set to [MANUAL] in [DETAIL], the function is not available.

NOISE REDUCTION (NR - NR Mode)

You can obtain clearer images by removing unnecessary noise (fixed pattern and randomized noise) with [NOISE REDUCTION]. Choose from [OFF] or level 1 through level 5. When you select [ADVANCED], you can set up [2D NR LEVEL] and [3D NR LEVEL] independently.

2D NR LEVEL (NR - 2D NR Level)

This is enabled when [NOISE REDUCTION] is [ADVANCED]. Choose from [OFF] or level [1] through level [5] for noise reduction.

3D NR LEVEL (NR - 3D NR Level)

This is enabled when [NOISE REDUCTION] is [ADVANCED]. Choose from [OFF] or level [1] through level [5] for noise reduction.

FLICKER CANCEL (Others - Flicker Cancel)

When this is turned [ON], the flicker correction feature becomes enabled.

When this is turned [OFF], the flicker correction feature becomes disabled.

Note

Depending on conditions such as the type of illumination and shutter speed, the flicker correction feature may not be effective. If the frame rate is close to the power supply frequency, the flicker correction feature may not be able to fully remove flickers, even if it is enabled. If this happens, use the electronic shutter.

We recommend to set [FLICKER CANCEL] to [OFF] under lights where no flicker is generated, such as outdoors.

IMAGE STABILIZER (Others - Image Stabilizer)

You can select this function according to the shooting conditions.

[OFF]: The image stabilization feature becomes disabled.

[ON]: The image stabilization feature becomes enabled.

When set to [ON], you can obtain steadier images if vibration is present.

Notes

- The image stabilizer function is not effective during pan/tilt operations. It may take some time for the image to stabilize after performing pan/tilt operations.
- If the image stabilizer function is already enabled, it may take some time for the image to stabilize after turning on the power of the camera.
- Depending on the installation conditions, the image stabilizer may not be effective.
- When the image stabilization feature is on, the PTZ Auto Framing performance may be affected.

OPTICAL FILTER

IR CUT FILTER (Day/Night ICR - Mode)

You can choose either to enable or disable the IR cut filter feature.

By disabling the IR cut filter feature, the gain in the IR region is increased, allowing the camera to capture images in shadow.

[DAY]: IR cut filter feature is enabled to remove unnecessary IR.

[NIGHT]: IR cut filter feature is disabled. The picture becomes monochrome.

[AUTO]: The mode is automatically switched to [DAY] or [NIGHT].

Note

When this setting is set to [AUTO], set [EXPOSURE MODE] to [FULL AUTO].

ICR THRESHOLD (Day/Night ICR – Threshold)

When [IR CUT FILTER] is set to [AUTO], choose a level to switch from [NIGHT] to [DAY] in the range from 0 to 255.

The mode is subject to change from [NIGHT] to [DAY] the smaller the chosen value is.

Note

If a larger value is chosen, the mode may not be switched to the DAY mode even when the object is bright. In this case, choose a smaller value.

PAN TILT/PRESET RECALL Menu

The PAN TILT/PRESET RECALL menu is used to select the pan/tilt/preset recall mode. You can set the menu from the Web App menu. For details, see [PTZF Control] or [P/T Range Limit] under [PTZF Control] (page 85).

<PAN TILT/PRESET RECALL>	
PAN TILT	
PAN LIMIT	ON
LEFT	+170°
RIGHT	-170°
TILT LIMIT	ON
DOWN	-20°
UP	+90°
RAMP CURVE	MODE1
PAN TILT SLOW	OFF
PRESET RECALL	
RECALL SPEED	COMMON
COMMON SPEED	24
PICT FREEZE PRESET	OFF

PAN TILT

PAN LIMIT (Range Limit - Setting)

Set whether to limit the pan rotation range.

[OFF]: Do not apply range limit.

[ON]: Apply range limit.

LEFT (Range Limit - Left)

-170 degrees to +169 degrees, adjustable in 1 degree increments.

RIGHT (Range Limit - Right)

-169 degrees to +170 degrees, adjustable in 1 degree increments.

TILT LIMIT (Range Limit - Setting)

Set whether to limit the tilt rotation range.

[OFF]: Do not apply range limit.

[ON]: Apply range limit.

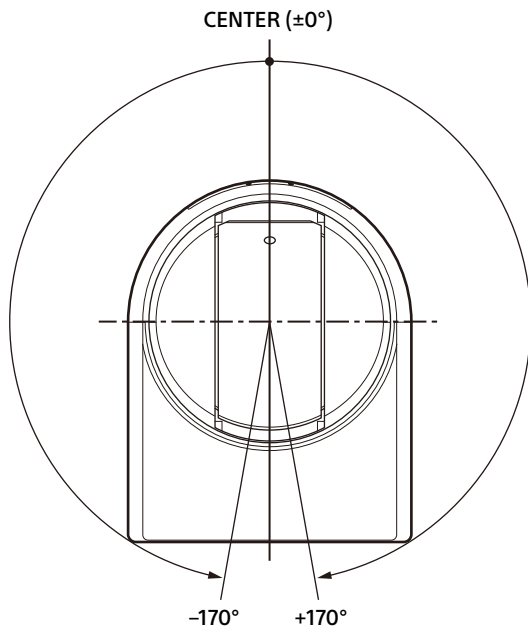
DOWN (Range Limit - Down)

-20 degrees to +89 degrees when [IMG FLIP] is set to [OFF], and -90 degrees to +19 degrees when [IMG FLIP] is set to [ON]. Adjustable in 1 degree increments.

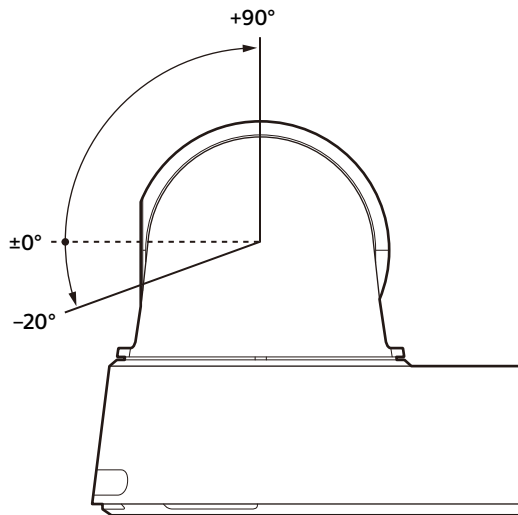
UP (Range Limit - Up)

-19 degrees to +90 degrees when [IMG FLIP] is set to [OFF], and -89 degrees to +20 degrees when [IMG FLIP] is set to [ON]. Adjustable in 1 degree increments.

Setting range of LEFT/RIGHT



Setting range of DOWN/UP



Notes

- Configure [PAN LIMIT] and [TILT LIMIT] before storing the camera position in a preset memory. If the camera position is out of the range of the [PAN LIMIT] and [TILT LIMIT] settings, you cannot store the camera position in the preset memory.
- When you change the [IMG FLIP] setting in the SYSTEM menu, the [PAN LIMIT] and [TILT LIMIT] settings are reset to the factory settings.

RAMP CURVE

Acceleration/deceleration curve for pan and tilt.

Note

This is fixed to [MODE1] for this camera.

PAN TILT SLOW (Pan-Tilt - Slow Pan-Tilt Mode)

You can select slow speed panning/tilting.

[OFF]: The camera pans/tilts at the standard speed.

[ON]: The camera pan/tilt speed is slower.

PRESET RECALL

You can select preset recall settings.

RECALL SPEED (Preset - Speed Select)

You can select the preset recall speed.

[COMPATIBLE]: Work differently depending on the commands for preset recall.

- **For VISCA command:** Pan/tilt work with the speed set by each preset.
- **For CGI command:** Pan/tilt work with the speed specified by the CGI command of preset recall.

[SEPARATE]: Pan/tilt work with the speed set by each preset.

[COMMON]: Pan/tilt work with the common speed to all presets.

COMMON SPEED (Preset - Common Speed)

This is enabled when [RECALL SPEED] is [COMMON]. Pan/tilt speed for preset recall, which is common to all presets.

PICT FREEZE PRESET (Preset - Pict Freeze Preset)

You can select the output image for preset recall.

[OFF]: Output image directly from the camera.

[ON]: Output frozen image during preset recalling.

VIDEO OUT Menu

You can set [COLOR SPACE] from the Web App menu on a web browser.

For details, see [Installation] under [System] (page 67).



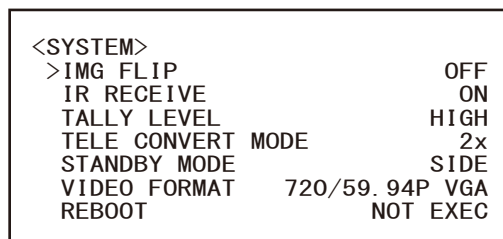
HDMI

COLOR SPACE (Video Out - Color Space)

Set the color space of HDMI output.

SYSTEM Menu

You can set the menu from the Web App menu. For details, see [Installation] of [System] (page 67) or [PTZF Control] under [PTZF Control] (page 85).



IMG FLIP (System - Image Flip)

When [IMG FLIP] is set to [ON], the picture is flipped vertically and the picture shift direction by the pan/tilt operation is also reversed.

After the [IMG FLIP] setting is changed, turn off the camera and turn it on again to activate the change.

Note

When the [IMG FLIP] setting is changed, the coordinates for pan and tilt are flipped and the following are reset.

- Pan-Tilt limit (PAN-TILT LIMIT)
- Preset
- PTZ Auto Framing setting

IR RECEIVE (System - IR Remote)

If this is turned [OFF], the camera does not receive signals from the supplied remote commander.

Be sure to turn this [ON] when you use the supplied remote commander.

Note

You cannot set [IR RECEIVE] to [OFF] when using the supplied remote commander. Set [IR RECEIVE] to [OFF] using the remote controller (not supplied) or from the Web App menu on the web browser.

TALLY LEVEL (System - Tally Lamp Brightness)

This allows you to configure the settings related to the tally lamp on the front of the camera. Choose from [HIGH], [LOW], and [OFF].

[HIGH]: When the tally lamp is turned on, it comes on bright.

[LOW]: When the tally lamp is turned on, it comes on dim.

[OFF]: Even when the tally-lamp-ON command is received, the tally lamp does not light up.

Note

When [TALLY LEVEL] is set to [OFF], the tally lamp does not light up.

TELE CONVERT MODE (System - Tele Convert)

You can shoot using 2× magnification.

[OFF]: Does not use the magnification function.

[2x]: Uses the magnification function.

Notes

- This is enabled only when the SYSTEM SELECT switch or the [VIDEO FORMAT] setting is set to 1920×1080.
- The angle of view when [TELE CONVERT MODE] is set to [2x] is narrower than when set to [OFF].
- When used with the image stabilizer function, image quality may be degraded. Set [IMAGE STABILIZER] (Image stabilizer) to [OFF] if desired.
- When the [TELE CONVERT MODE] setting is changed, set [Start Position] and [Detection Settings] of [PTZ Auto Framing Settings] again.

STANDBY MODE (System – Standby Mode)

This is the function to move the pan position to the end automatically when the camera enters in the standby mode.

[NEUTRAL]: The pan position is not moved automatically.

[SIDE]: The pan position is moved to the end automatically.

Notes

- When the mode is set to [SIDE], the pan position is moved to the end, exceeding the limit even if [PAN LIMIT] is specified.
- After the camera is turned on from the standby mode, the camera position moves to the position recorded on PRESET1.

VIDEO FORMAT (Video Out – Format)

Select the video format of the signal to be output from the HDMI and SDI OUT terminals.

The video format can be changed from this menu when the SYSTEM SELECT switch is set to 6.

When the SYSTEM SELECT switch is set to a value other than 6, the setting status of the SYSTEM SELECT switch and the SDI format level of the CAMERA SETUP switch are displayed.

After the setting is changed, turn off the camera and turn it on again, put the camera in the

standby mode and turn it on again, or execute [REBOOT] to reflect the changes.

Select the setting from [2160/29.97p], [1080/59.94p A], [1080/59.94p B], [1080/59.94i], [1080/29.97p], [720/59.94p], [720/59.94p VGA], [2160/25p], [1080/50p A], [1080/50p B], [1080/50i], [1080/25p], [720/50p], [2160/23.98p], or [1080/23.98p].

Note

The video format cannot be changed when the SYSTEM SELECT switch is set to a value other than 6.

REBOOT

Reboot the camera.

STATUS Menu

<STATUS>EXPOSURE	PAGE1
MODE	FULL AUTO
AE SPEED	1
EX-COMP	ON
LEVEL	-1
GAIN LIMIT	24dB
GAIN POINT	ON
POINT POSITION	6dB
MAX SPEED	1/2000
MIN SPEED	1/60
BACKLIGHT	OFF
SPOTLIGHT	OFF
SLOW SHUTTER	ON

The STATUS menu is used to display the settings selected with the menus. This menu only displays the current menu settings, and you cannot change them with this menu. The current menu settings will vary depending on the camera model. Press the ◀ or ▶ button of the remote commander to switch PAGE.

For SRG-A40

- PAGE1:** Items in the EXPOSURE menu
- PAGE2:** Items in the COLOR menu
- PAGE3:** Items in the DETAIL menu
- PAGE4:** Items in the VE menu
- PAGE5:** Items in the ZOOM/FOCUS menu
- PAGE6:** Items in the PICTURE/OPT.FILTER menu
- PAGE7:** Items in the PAN TILT/PRESET menu
- PAGE8:** Items in the VIDEO OUT menu
- PAGE9:** Items in the SYSTEM menu
- PAGE10:** Device information of the camera and status of switch settings on the back of the camera
- PAGE11:** Network settings

For SRG-A12

- PAGE1:** Items in the EXPOSURE menu
- PAGE2:** Items in the COLOR menu
- PAGE3:** Items in the DETAIL menu
- PAGE4:** Items in the VE menu
- PAGE5:** Items in the FOCUS menu
- PAGE6:** Items in the PICTURE/OPT.FILTER menu
- PAGE7:** Items in the PAN TILT/PRESET menu
- PAGE8:** Items in the VIDEO OUT menu
- PAGE9:** Items in the SYSTEM menu
- PAGE10:** Device information of the camera and status of switch settings on the back of the camera
- PAGE11:** Network settings

The [DEVICE INFO] and [NETWORK] screens are only in the STATUS menu.

DEVICE INFO (Device information of the camera and setting status of switches on the back of the camera)

Displays the device information. The Web App menu is not available for this display.

MODEL NAME (Information - Model Name)

Displays the model name of the camera.

SERIAL NUMBER (Information - Serial Number)

Displays the serial number of the camera.

VERSION (Information - Version Number)

Displays the software version of the camera.

NAME (Common - Camera Name)

Displays the name applied to the camera. To change the name, see [Network] under [Network] (page 77) of the Web App menu, or refer to the "RM-IP Setup Tool."

SYSTEM MODE (Video Out - Format)

Displays the video output format of the camera.

IR SELECT

Displays the number of the IR SELECT switch on the back of the camera.

SDI LEVEL

Displays the status of SDI LEVEL.

VISCA RATE

Displays the rate of the BAUD RATE SELECT switch on the back of the camera.

NETWORK

The NETWORK menu is used to configure Network settings.

MAC ADDRESS (Status - MAC Address)

Displays the MAC address of the camera.

IP ADDRESS (Status - IP Address)

Displays the IP address set up on the camera.

SUBNET MASK (Status - Subnet Mask)

Displays the subnet mask currently set up for the camera.

GATEWAY (Status - Gateway)

Displays the default gateway address currently set up for the camera.

Note

Configure these settings using the setup application "RM-IP Setup Tool" on your computer.

For details on the settings, refer to the "RM-IP Setup Tool Guide."

Menu Configuration

The camera menu is configured as described below. For more details, refer to the pages in parenthesis. The initial settings of each item are in bold. Only supported functions are displayed.

Menu item	Setting item	Setting value
EXPOSURE (page 31)	MODE	FULL AUTO , SHUTTER Pri, IRIS Pri, MANUAL
	GAIN	0dB , 3dB, 6dB, 9dB, 12dB, 15dB, 18dB, 21dB, 24dB, 27dB, 30dB, 33dB, 36dB (When high-sensitivity mode is set to OFF) 0dB , 3dB, 6dB, 9dB, 12dB, 15dB, 18dB, 21dB, 24dB, 27dB, 30dB, 33dB, 36dB, 39dB, 42dB, 45dB, 48dB (When high-sensitivity mode is set to ON) (Adjustable only when MODE in the EXPOSURE menu is set to MANUAL.)
	SPEED	For the 59.94 or 29.97 frame rate of video output: 1/1, 2/3, 1/2, 1/3, 1/4, 1/6, 1/8, 1/10, 1/15, 1/20, 1/30, 1/50, 1/60, 1/90, 1/100, 1/125, 1/180, 1/250, 1/350, 1/500, 1/725, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000 For the 50 or 25 frame rate of video output: 1/1, 2/3, 1/2, 1/3, 1/4, 1/6, 1/8, 1/12, 1/15, 1/20, 1/25, 1/30, 1/50, 1/60, 1/100, 1/120, 1/150, 1/215, 1/300, 1/425, 1/600, 1/1000, 1/1250, 1/1750, 1/2500, 1/3500, 1/6000, 1/10000 For the 23.98 frame rate of video output: 1/1, 2/3, 1/2, 1/3, 1/4, 1/6, 1/8, 1/12, 1/20, 1/24, 1/25, 1/40, 1/48, 1/50, 1/60, 1/96, 1/100, 1/120, 1/144, 1/192, 1/200, 1/288, 1/400, 1/576, 1/1200, 1/2400, 1/4800, 1/10000 (Adjustable only when MODE in the EXPOSURE menu is set to MANUAL or SHUTTER Pri.)
	IRIS	F2.0 /F2.2/F2.4/F2.6/F2.8/F3.1/F3.4/F3.7/F4.0/F4.4/F4.8/F5.2/F5.6/F6.2/ F6.8/F7.3/F8.0/F8.7/F9.6/F10/F11/CLOSE (Adjustable only when MODE in the EXPOSURE menu is set to MANUAL or IRIS Pri.)
	AE SPEED	1 ~ 48 (Adjustable only when MODE in the EXPOSURE menu is set to FULL AUTO, SHUTTER Pri, or IRIS Pri.)
	EX-COMP	OFF , ON (Adjustable only when MODE in the EXPOSURE menu is set to FULL AUTO, SHUTTER Pri, or IRIS Pri.)
	LEVEL	-7, -6, -5, -4, -3, -2, -1, 0 , +1, +2, +3, +4, +5, +6, +7 (Adjustable when MODE in the EXPOSURE menu is set to FULL AUTO, SHUTTER Pri, or IRIS Pri, and EX COMP is set to ON.)
	GAIN LIMIT	9dB, 12dB, 15dB, 18dB, 21dB, 24dB, 27dB, 30dB, 33dB, 36dB (When high- sensitivity mode is set to OFF) 21dB, 24dB, 27dB, 30dB, 33dB, 36dB, 39dB, 42dB, 45dB, 48dB (When high- sensitivity mode is set to ON) (Adjustable only when MODE in the EXPOSURE menu is set to FULL AUTO, SHUTTER Pri, or IRIS Pri.)
	GAIN POINT	OFF , ON (Adjustable only when MODE in the EXPOSURE menu is set to FULL AUTO or IRIS Pri.)
	POINT POSITION	0dB , 3dB, 6dB, 9dB, 12dB, 15dB, 18dB, 21dB, 24dB, 27dB, 30dB, 33dB, 36dB (When high-sensitivity mode is set to OFF) 0dB , 3dB, 6dB, 9dB, 12dB, 15dB, 18dB, 21dB, 24dB, 27dB, 30dB, 33dB, 36dB, 39dB, 42dB, 45dB, 48dB (When high-sensitivity mode is set to ON) (Adjustable when MODE in the EXPOSURE menu is set to FULL AUTO or IRIS Pri, and GAIN POINT is set to ON.)
MAX SPEED	For the 59.94 or 29.97 frame rate of video output: 1/30, 1/50, 1/60, 1/90, 1/100, 1/125, 1/180, 1/250, 1/350, 1/500, 1/725, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000 For the 50 or 25 frame rate of video output: 1/25, 1/30, 1/50, 1/60, 1/100, 1/120, 1/150, 1/215, 1/300, 1/425, 1/600, 1/1000, 1/1250, 1/1750, 1/2500, 1/3500, 1/6000, 1/10000 For the 23.98 frame rate of video output: 1/24, 1/25, 1/40, 1/48, 1/50, 1/60, 1/96, 1/100, 1/120, 1/144, 1/192, 1/200, 1/288, 1/400, 1/576, 1/1200, 1/2400, 1/4800, 1/10000 (Adjustable only when MODE in the EXPOSURE menu is set to FULL AUTO or IRIS Pri.)	

Menu item	Setting item	Setting value
	MIN SPEED	For the 59.94 or 29.97 frame rate of video output: 1/1, 2/3, 1/2, 1/3, 1/4, 1/6, 1/8, 1/10, 1/15, 1/20, 1/30, 1/50, 1/60, 1/90, 1/100, 1/125, 1/180, 1/250, 1/350, 1/500, 1/725, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000 For the 50 or 25 frame rate of video output: 1/1, 2/3, 1/2, 1/3, 1/4, 1/6, 1/8, 1/12, 1/15, 1/20, 1/25, 1/30, 1/50, 1/60, 1/100, 1/120, 1/150, 1/215, 1/300, 1/425, 1/600, 1/1000, 1/1250, 1/1750, 1/2500, 1/3500, 1/6000, 1/10000 For the 23.98 frame rate of video output: 1/1, 2/3, 1/2, 1/3, 1/4, 1/6, 1/8, 1/12, 1/20, 1/24, 1/25, 1/40, 1/48, 1/50, 1/60, 1/96, 1/100, 1/120, 1/144, 1/192, 1/200, 1/288, 1/400, 1/576, 1/1200, 1/2400, 1/4800, 1/10000 (Adjustable only when MODE in the EXPOSURE menu is set to FULL AUTO or IRIS Pri.)
	BACKLIGHT	OFF, ON (Adjustable only when MODE in the EXPOSURE menu is set to FULL AUTO, SHUTTER Pri, or IRIS Pri.)
	SPOTLIGHT	OFF, ON (Adjustable only when MODE in the EXPOSURE menu is set to FULL AUTO, SHUTTER Pri, or IRIS Pri.)
	SLOW SHUTTER	OFF, ON (Adjustable only when MODE in the EXPOSURE menu is set to FULL AUTO or IRIS Pri.)

Menu item	Setting item	Setting value
COLOR (page 34)	WHITE BALANCE MODE	AUTO1, AUTO2, INDOOR, OUTDOOR, ONE PUSH, MANUAL
	SPEED	1, 2, 3 , 4, 5 (Adjustable only when WHITE BALANCE MODE is set to AUTO1 or AUTO2.)
	OFFSET	-7, -6, -5, -4, -3, -2, -1, 0 , +1, +2, +3, +4, +5, +6, +7 (Adjustable only when WHITE BALANCE MODE is set to AUTO1, AUTO2, or ONE PUSH.)
	R.GAIN	-128 ~ 0 ~ +127 (Adjustable only when WHITE BALANCE MODE is set to MANUAL.)
	B.GAIN	-128 ~ 0 ~ +127 (Adjustable only when WHITE BALANCE MODE is set to MANUAL.)

Menu item	Setting item	Setting value
DETAIL (page 35)	MODE	AUTO, MANUAL
	LEVEL	-7, -6, -5, -4, -3, -2, -1, 0 , +1, +2, +3, +4, +5, +6, +7, +8
	BAND WIDTH	DEFAULT, LOW, MIDDLE, HIGH, WIDE (Adjustable only when MODE in the DETAIL menu is set to MANUAL.)
	CRISPENING	0, 1, 2, 3 , 4, 5, 6, 7 (Adjustable only when MODE in the DETAIL menu is set to MANUAL.)
	HV BALANCE	-2, -1, 0 , +1, +2 (Adjustable only when MODE in the DETAIL menu is set to MANUAL.)
	BW BALANCE	TYPE0, TYPE1, TYPE2 , TYPE3, TYPE4 (Adjustable only when MODE in the DETAIL menu is set to MANUAL.)
	LIMIT	0, 1, 2, 3 , 4, 5, 6, 7 (Adjustable only when MODE in the DETAIL menu is set to MANUAL.)
	HIGHLIGHT DETAIL	0, 1, 2, 3, 4 (Adjustable only when MODE in the DETAIL menu is set to MANUAL.)
	SUPER LOW	0, 1, 2, 3 , 4, 5, 6, 7 (Adjustable only when MODE in the DETAIL menu is set to MANUAL.)

Menu item	Setting item	Setting value
VISIBILITY ENHANCER (page 36)	SETTING	OFF , ON
	EFFECT	-3, -2, -1, 0 , +1, +2, +3

Menu item	Setting item	Setting value
ZOOM/FOCUS (SRG-A40) (page 36)	ZOOM MODE	OPTICAL , CLEAR IMAGE ZOOM, DIGITAL
	FOCUS MODE	AUTO , MANUAL

Menu item	Setting item	Setting value
FOCUS (SRG-A12) (page 37)	MODE	AUTO , MANUAL

Menu item	Setting item (first level)	Setting item (second level)	Setting value
PICTURE/OPTICAL FILTER (page 38)	PICTURE	HIGH RESOLUTION	OFF , ON
		NOISE REDUCTION	OFF, 1, 2, 3 , 4, 5, ADVANCED
		2D NR LEVEL	OFF, 1, 2, 3 , 4, 5 (Adjustable only when NOISE REDUCTION is set to ADVANCED.)
		3D NR LEVEL	OFF, 1, 2, 3 , 4, 5 (Adjustable only when NOISE REDUCTION is set to ADVANCED.)
		FLICKER CANCEL	OFF , ON
		IMAGE STABILIZER	OFF , ON
	OPTICAL FILTER	IR CUT FILTER	NIGHT, DAY , AUTO
		ICR THRESHOLD	0 ~ 14 ~ 255 (Adjustable only when IR CUT FILTER is set to AUTO.)

Menu item	Setting item (first level)	Setting item (second level)	Setting value
PAN TILT/PRESET RECALL (page 39)	PAN TILT	PAN LIMIT	OFF , ON
		LEFT	-170° ~ +169° (Adjustable only when PAN LIMIT is set to ON.)
		RIGHT	-169° ~ +170° (Adjustable only when PAN LIMIT is set to ON.)
		TILT LIMIT	OFF , ON
		DOWN	when IMG FLIP is OFF: -20° ~ +89° when IMG FLIP is ON: -90° ~ +19° (Adjustable only when TILT LIMIT is set to ON)
		UP	when IMG FLIP is OFF: -19° ~ +90° when IMG FLIP is ON: -89° ~ +20° (Adjustable only when TILT LIMIT is set to ON)
		RAMP CURVE	MODE1
		PAN TILT SLOW	OFF , ON

Menu item	Setting item (first level)	Setting item (second level)	Setting value
	PRESET RECALL	RECALL SPEED	COMPATIBLE, SEPARATE, COMMON
		COMMON SPEED	1 ~ 25 (Adjustable only when RECALL SPEED is set to COMMON.)
		PICT FREEZE PRESET	OFF, ON

Menu item	Setting item (first level)	Setting item (second level)	Setting value
VIDEO OUT (page 41)	HDMI	COLOR SPACE	YCbCr, RGB

Menu item	Setting item	Setting value
SYSTEM (page 41)	IMG FLIP	ON, OFF
	IR RECEIVE	ON, OFF
	TALLY LEVEL	OFF, LOW, HIGH
	TELE CONVERT MODE	OFF, 2x
	STANDBY MODE	NEUTRAL, SIDE
	VIDEO FORMAT	2160/29.97p, 1080/59.94p A, 1080/59.94p B, 1080/59.94i, 1080/29.97p, 720/59.94p, 720/59.94p VGA, 2160/25p, 1080/50p A, 1080/50p B, 1080/50i, 1080/25p, 720/50p, 2160/23.98p, 1080/23.98p
	REBOOT	NOT EXEC, EXEC

Menu item	Setting item
STATUS (page 43)	EXPOSURE
	COLOR
	DETAIL
	VE
	ZOOM/FOCUS (SRG-A40) or FOCUS (SRG-A12)
	PICTURE/OPT.FILTER
	PAN TILT/PRESET
	VIDEO OUT
	SYSTEM
	DEVICE INFO
	NETWORK

Accessing the Camera from a Web Browser

You can access the camera from a web browser on a computer to operate the camera, change the setting, and upgrade the firmware.

An IP address must be set on the camera for access from a web browser. For details on IP address settings, refer to "RM-IP Setup Tool Guide."

Setting-up the Computer

System configurations required for the Computer are shown in the following (as of September 2024).

OS/Web browser

Windows

OS version

Windows 11 (64-bit version)

Windows 10 (64-bit version)

Web browser

Google Chrome (Recommended)

Microsoft Edge

macOS

OS version

macOS 11

macOS 12

macOS 13

Web browser

Google Chrome

CPU

Intel® Core™ 7th generation (Kaby Lake) or later (Recommended)

Memory

8 GB (Recommended)

Display

1920×1080 (Recommended)

Notes

- If the required system configurations are not implemented, or depending on the computer usage status, it may affect video-play operation on a web browser.
- For Windows 10, turn off the tablet mode.
- Every page is optimized when the zoom percentage is [100%] and font size is [Medium] on a web browser.
- If an image does not fit on the screen, set the display setting (zoom percentage) of your computer to 100%.

- If you use a display with high pixel density, the zoom percentage may change automatically.
- Web pages displayed when you access the camera are JavaScript. Web pages may not be displayed correctly if some antivirus software are used on your computer.

Accessing the Camera from a Web Browser

Accessing the Web App entering the camera's IP address

Start a web browser on the computer and enter the IP address of the camera in the address bar. This camera's Web App screen is displayed on the web browser.

This camera is shipped with the DHCP mode. Confirm the camera's IP address on RM-IP Setup Tool.

Note

When the HTTP port number is changed from "80", enter "http://this camera's IP address:port number".

Accessing the Web App entering the camera's URL

Start a web browser on the computer and enter the URL which is printed on the bottom label of the camera or the supplied URL label in the address bar.

This camera's Web App screen is displayed on the web browser.

Note

Use an mDNS*-compliant device to access the Web App when entering a URL.

* mDNS (multicast DNS): A communication rule (protocol) used to find an IP address from host names in the local network.

Accessing the Web App using the QR code

Take a picture of the QR code printed on the camera's bottom label or the supplied URL label using a computer's camera, etc., and open the displayed link.

This camera's Web App screen is displayed on the web browser.

Note

Use an mDNS*-compliant device to access the URL read from the QR code on a Web App.

* mDNS (multicast DNS): A communication rule (protocol) used to find an IP address from host names in the local network.

Setting the Initial Password

Accessing the camera for the first time requires initial settings.

Note

A screen asking for a password to be set is displayed for HDMI and SDI OUT until an initial password is set for the camera.

Start the Web App connecting the camera to the computer

When using the camera for the first time, a user name and password are required for the web browser. Enter the following;

- User name: admin
- Password: blank space

Perform the initial setting following the screen's instructions.

Note

The following letters are available for the user name and password. Set 8 to 64 characters for passwords including alphabetical capital letters, lower case letters, and numbers.

- Alphanumeric
- Symbol (!\$%`*+-. /<=>?@[]^_{ }~)

When You Use Antivirus Software on Your Computer

- When you use antivirus software, security software, personal firewall, or pop-up blocker on your computer, the camera performance may be reduced. For example, the frame rate for displaying the image may be lower.
- Web pages displayed when you access the camera are JavaScript. Web pages may not be displayed correctly if some antivirus software are used on your computer.

When the SSL Function is Used

When [Enable (Allow HTTP connection for some clients)] (page 82) is selected

To access the HTTP or SSL connection, enter the following in the address box of the web browser.

For HTTP connection

`http://this camera's IP address/index.html`

For SSL connection

`https://this camera's IP address/index.html`

Web App Screen

About Web App Screen

You can operate pan/tilt/zoom/focus, PTZ Auto Framing, and the camera setting on a browser by connecting the camera to the computer (called "Web App" hereafter). This document uses SRG-A40's Web App screen.

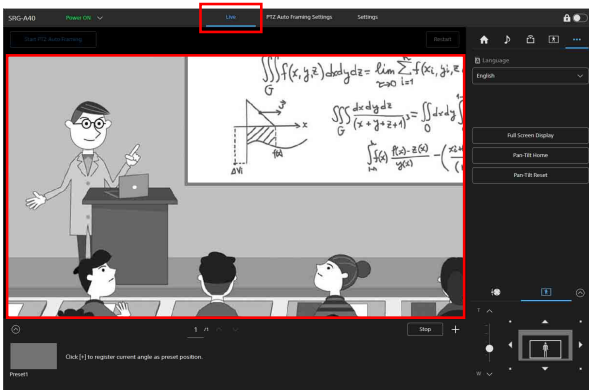
For starting Web App, refer to "Web App Menu Operation Method" (page 64).

Note

Web App does not support the camera's audio output.

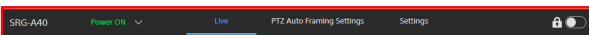
When starting Web App, the following live operation screen is displayed.

Live Operation Screen



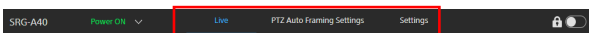
For details of the live operation screen, refer to "Location and Function of the Live Operation Screen" (page 52).

The common buttons and icons of the live operation screen and setting screen are displayed on the screen top.



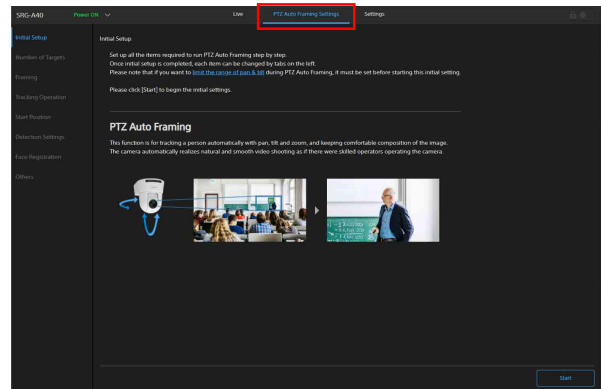
For common parts of the screen, refer to "Location and Function of the Screen Common Parts" (page 52).

You can switch the screen by pressing the operation screen switching tab of the common parts.



PTZ Auto Framing Setting Screen

Press the [PTZ Auto Framing Settings] tab to display the setting screen of PTZ Auto Framing.



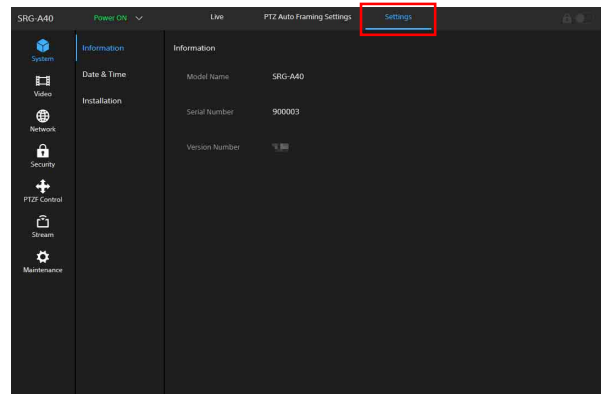
For details on the PTZ Auto Framing setting screen, refer to "PTZ Auto Framing Setting Screen" (page 56).

Note

To open the PTZ Auto Framing setting screen, Administrator or Full authority is required. For details, refer to [User] under [Security] (page 79).

Setting Screen

Press [Settings] tab to display the setting screen (called Web App menu).



Notes

- To display the setting screen, Administrator authority is required. For details, refer to [User] under [Security] (page 79).
- The setting content is not confirmed until pressing [OK] button on the Web App menu. When the setting is changed on the page with the [OK] button displayed, make sure to press [OK] button.

For details on the setting screen, refer to "Setting Screen" (page 63).

Location and Function of the Screen Common Parts

This section explains the location and function of the screen common parts.

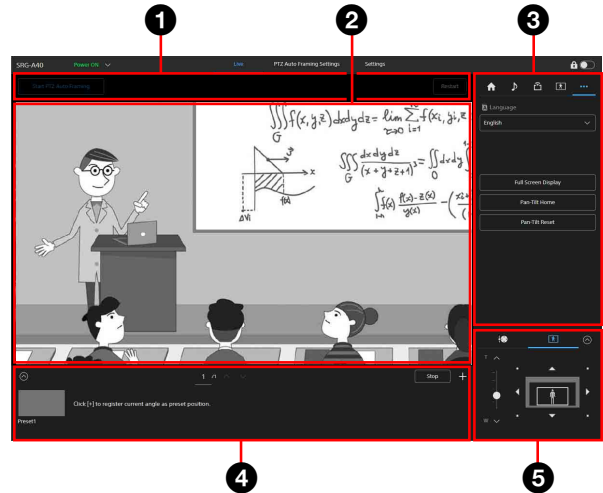


- 1 Camera name**
Displays the camera name.
The name can be changed on [Camera Name] under [Network] on the Web App menu.
- 2 Power Switch**
When turning on the camera, [Power ON] is displayed. When [Power Standby] is selected when the switch is pressed down, the camera's power goes into the Standby. When [Power ON] is selected when the switch is pressed down while [Power Standby] is displayed, the camera turns on.
- 3 Switching section of the operation screen**
Press the tab to change the operation screen.
[Live] tab: Displays the live operation screen.
[PTZ Auto Framing Settings] tab: Displays the PTZ Auto Framing setting screen.
[Settings] tab: Displays the setting screen (Web App menu).
- 4 Temperature abnormality warning**
A warning is displayed when the internal temperature is high.
After the power is turned off, do not use the camera until it cools down.
- 5 Streaming distribution status display**
Displayed while a stream is being distributed (only when the streaming setting is set to [SRT-Caller]).
- 6 Screen operation lock switch**
 (Operation Unlock): Turn the switch to the left to operate the live operation screen.
 (Operation Lock): Turn the switch to the right to lock the operation of the live operation screen in order to prevent malfunctions.

Live Operation Screen

Location and Function of the Live Operation Screen

This section explains the location and function of the live operation screen.



- 1 PTZ Auto Framing operation section**
The PTZ Auto Framing function keeps shooting the moving subject under an optimum composition, rotating the camera up, down, left, right, zoom in or zoom out automatically based on the shot video. To use the PTZ Auto Framing, in advance the initial setting on the PTZ Auto Framing setting tab is required. For details of the initial setting, refer to "Location and function of the PTZ Auto Framing Setting Screen" (page 56). Also, for details of the operation of the PTZ Auto Framing refer to "Location and function of PTZ Auto Framing execution screen" (page 61).
- 2 Camera's video section**
Displays the video while shooting.
When performing the PTZ Auto Framing and Detected Indicator (page 61) is valid, Detected Indicator is displayed.
Also, the red frame is displayed around the video depending on the external tally lamp signal.
- 3 Camera's operation section**
Sets the necessary functions that operate the camera. Switches the displayed screen using the screen top tab.

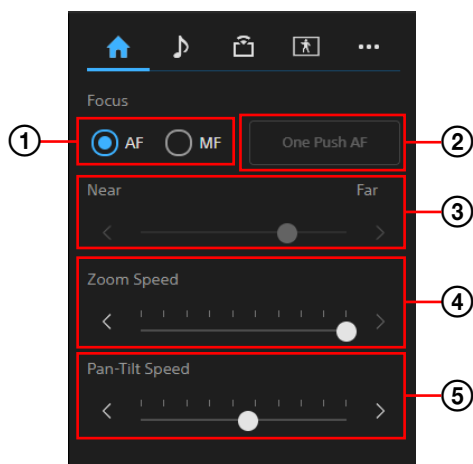


For details, refer to the operations of each function.

(Main) tab

Displays the setting values of functions which are operated frequently. The following functions can be selected.

- Focus
- Zoom Speed
- Pan-Tilt Speed



① Focus mode

Selects the focus mode.

AF: Selects the auto focus mode.

MF: Selects the manual mode.

② One Push AF

Performs the auto focus once. This can be performed only when in manual focus mode.

③ Focus adjustment

Adjusts the focus using the slider. This can be performed only when in manual focus mode.

④ Zoom Speed

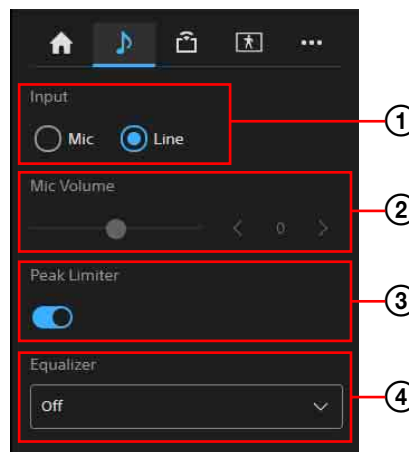
Sets the zoom speed for operating the zoom of the angle of view operation section by using the slider.

⑤ Pan-Tilt Speed

Sets the pan/tilt speed using the slider for operating the pan/tilt of the angle of view operation section.

(Audio) tab

Displays the setting items related to audio.



① Input

Selects the Audio input setting.

Mic: Selects the mic input.

Line: Selects the line input.

② Mic Volume

Sets the mic volume level.

Between -10 to +10 can be selected.

This can be set only when the Audio input setting is set to the mic.

③ Peak Limiter

Sets the auto adjustment function of the gain.

When displaying , the gain auto adjustment function turns to On.

When displaying , the gain auto adjustment function turns to Off.

④ Equalizer

Sets the audio equalizing function.

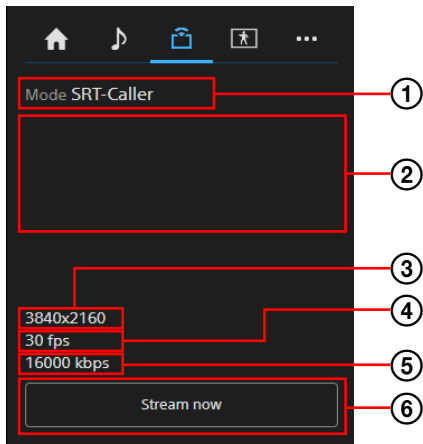
Off	Turns the function off
Low Cut	Reduces the low-pass
Voice Enhancement	Emphasizes the audio

(Stream) tab

Displays the setting items related to streaming. The items differ depending on the streaming method.

Perform the start/stop of the distribution when [SRT-Caller] is set.

For details, refer to "Stream Setting" under "Stream" (page 87).



① **Streaming mode display**
Displays the streaming mode.


② **URL display**
Displays the delivery destination URL of SRT-Caller.

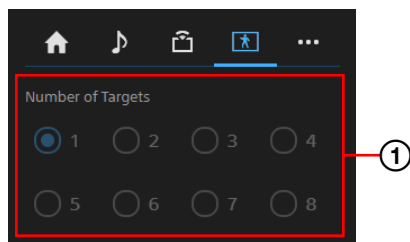
③ **Image Size display**
Displays the streaming Image Size.

④ **Frame Rate display**
Displays the streaming Frame Rate.


⑤ **Bit Rate display**
Displays the streaming Bit Rate.

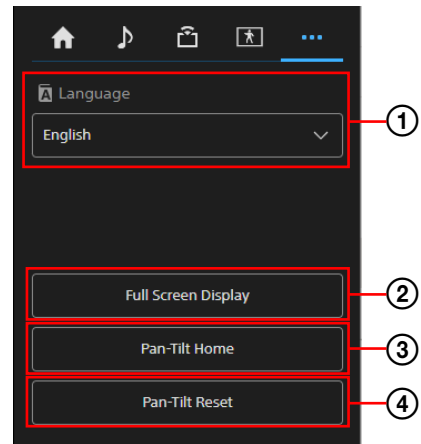
⑥ **Streaming control**
Operates start/stop of the stream.

 **(PTZ Auto Framing) tab**
The PTZ Auto Framing settings are displayed.
Displayed automatically when PTZ Auto Framing starts.



① **Number of Targets**
Select a number between 1 and 8 for the number of targets.
The number will become selectable once the initial setup of the PTZ Auto Framing settings is completed.

 **(Others) tab**
Displays the setting items of the other functions.




① **Language setting**
Sets the displayed language.

② **Full Screen Display**
Displays the monitor by opening a new Web browser.


③ **Pan-Tilt Home**
Places the pan/tilt towards Home (front).

④ **Pan-Tilt Reset**
Initializes the pan/tilt.

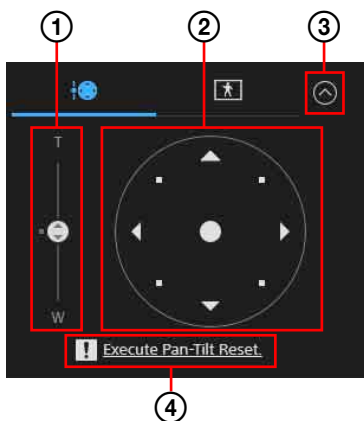
④ **Preset position control section**
Displays the angle of view which is registered as a thumbnail. Double-click the thumbnail to restore the memorized angle of view in the preset.
Press  to hide the preset position control section.
For the preset position, refer to "Preset Items and Image Setting File Items" (page 98).

⑤ **Angle of view control/PTZ Auto Framing composition adjustment section**
Used to control the camera's angle of view and adjust the composition during PTZ Auto Framing.
Use the tabs to change the displayed screen.



For details, refer to the operations of each function.
The angle of view control and PTZ Auto Framing composition adjustment section can be hidden by pressing .

(Angle of view control) tab
Used to adjust the camera's angle of view.



For details on the operating method, refer to "Angle of view's adjustment" (page 65).

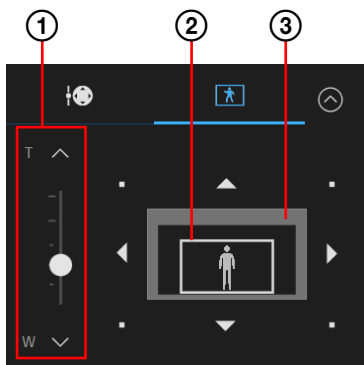
① **Zoom slider**
Operates the camera's zoom using the slider.

② **Joystick**
Operates the camera's pan/tilt. The camera's direction and speed change according to the direction and amount of drag. Lightly press the areas around the joystick to make precise adjustments to the pan/tilt position.

③ **Close button**
Selects to show or hide the angle of view of the control section.

④ **Pan/tilt reset guidance**
Notifies the need for pan/tilt reset.

(Framing control) tab
Used to set the shot composition during PTZ Auto Framing. Displayed automatically when PTZ Auto Framing starts.

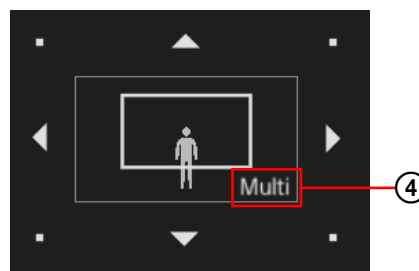


For details on the operating method, refer to "Framing" (page 57).

① **Slider**
Drag the slider to change how large the person appears in the frame. You can make precise adjustments by pressing / above and under the slider.

② **Framing frame**
Drag the framing frame to adjust the vertical and horizontal positioning of the person in the frame. You can make precise adjustments by clicking and located above, under, to the left, to the right, and at the corners of the frame.

③ **Gray zone**
Tracking performance is lowered if the framing frame enters this area. When multi-person tracking is set, the gray zone disappears.

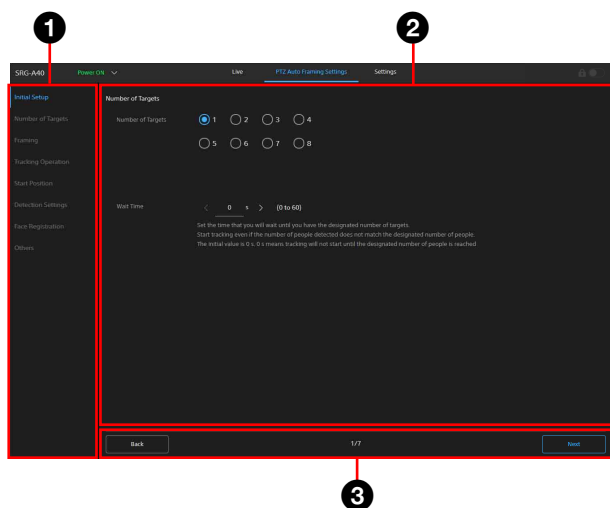


④ **Multi-person tracking icon**
When multi-person tracking is set, **Multi** is displayed.

PTZ Auto Framing Setting Screen

Location and function of the PTZ Auto Framing Setting Screen

This section explains the location and function of the PTZ Auto Framing setting screen.



1 Tab

The setting item of PTZ Auto Framing. Only [Initial Setup] can be selected before ending the initial setting of PTZ Auto Framing.

Once the initial setting is finished, each setting item can be selected separately.

2 Setting section

Displays the content of the setting item which is selected in the tab.

3 Page operation section

The operation buttons of the first time setting

[Start]: Starts the initial setting for the first time.

[Next]: Applies the content on the setting section, then proceeds to the next page.

[Back]: Applies the content on the setting section, then returns to the previous page.

[Done]: Completes the initial setting.

The operation buttons for setting after the second time

[Start initial setup again]: Resets the once completed initial setting.

[Reload]: Deletes the changes on the setting section. Acquires the camera status, then displays the setting section again.

[OK]: Applies the changes performed on the setting section to the camera. Acquires the camera status, then displays the setting section again.

[Cancel]: Cancels the changes on the setting section. Returns the setting changes to the previous status.

Displays the page number when the initial setting is performed.

After the PTZ Auto Framing is set for the first time, PTZ Auto Framing can be performed on the live operation screen by proceeding through the following screens: [Initial Setup] - [Number of Targets] - [Framing] - [Tracking Start Mode] - [Start Position] - [Detection Settings] - [Face Registration] - [Others].

When PTZ Auto Framing is being set for the first time, if [Automatic Target Selection] under [Tracking Start Mode] is set to Off, [Detection Settings] and [Face Registration] will be skipped. When PTZ Auto Framing is being set for the first time, if [Registered Face Tracking] under [Detection Settings] is set to Off, [Face Registration] will be skipped.

Notes

- When the movable camera range is controlled while performing PTZ Auto Framing, set [Limit the range of pan & tilt] before starting the initial setting. PTZ Auto Framing tracks the tracking subject between the pan/tilt range controls.
- When the image flip function is performed, the PTZ Auto Framing setting returns to the initial setting. When setting, set the image flip function before setting PTZ Auto Framing.
- Disable the Image Stabilizer function. When enabled, PTZ Auto Framing does not perform well.
- When [TELE CONVERT MODE] setting is changed, set [Start Position] and [Detection Settings] of [PTZ Auto Framing Settings] again.


Initial Setup

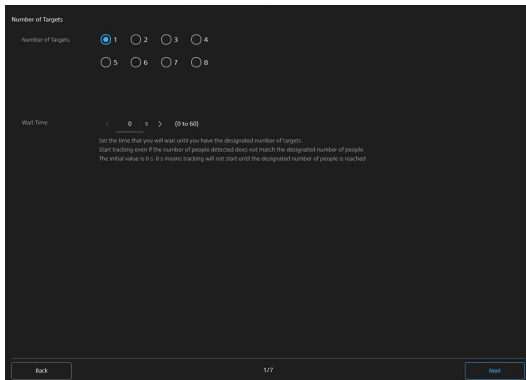
Performs the initial setting of PTZ Auto Framing. Displays the [Start] button only when setting PTZ Auto Framing for the first time.

Press the [Start] button to start the initial setting of PTZ Auto Framing, and each item is set in order.

Number of Targets

Set the number of targets during PTZ Auto Framing.

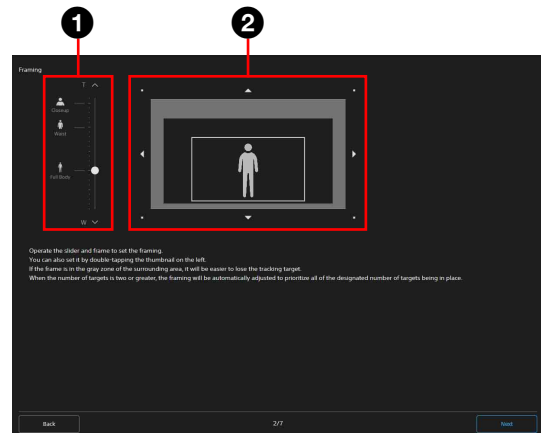
The number of targets can be changed on the  (PTZ Auto Framing) tab on the live operation screen even during PTZ Auto Framing.



Framing

Set the target framing for PTZ Auto Framing.

You can adjust how large the person appears and the positioning of the person in the captured image.



Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Number of Targets	1 to 8	1	If a number between 2 and 8 is selected, the selected number of persons will be tracked.
Wait Time	0 to 60 (seconds)	0	The default wait time value is 0. When 0 is set, tracking will not start until the specified number of persons present in the frame is reached. Sets the amount of time to wait until the specified number of targets are present in the frame. Set to 1 or more to start tracking even if the number of persons detected is less than the specified number.

1 Zoom slider

Set how large the person appears in the captured image.

Double-click one of the icons to the left of the slider to set the framing indicated by the icon.

2 Framing frame

Set the positioning of the person in the captured image. Adjust the white frame on the framing image. When this frame enters the gray zone, it becomes easier for the camera to lose track of a person moving in the opposite direction.

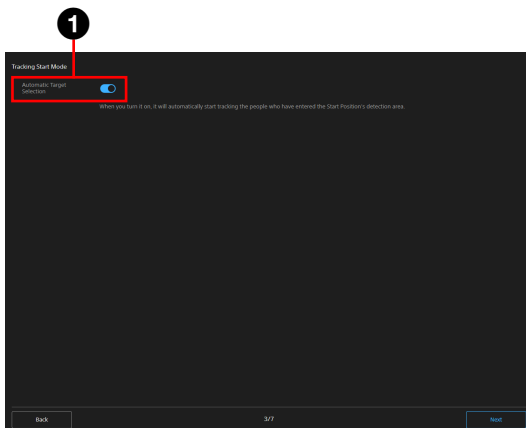
When there are 2 or more targets, the framing is automatically adjusted to prioritize capturing the specified number of targets within the frame.

Note

If the framing is set so that the person appears larger in the captured image, it becomes easier for the camera to lose track of a person that is moving more quickly. When this is the case, make sure you have enough room in the frame in the direction the persons will be moving, such as by adjusting the frame so that the persons appear smaller, etc.

Tracking Operation

Set the PTZ Auto Framing mode.



Tracking Start Mode

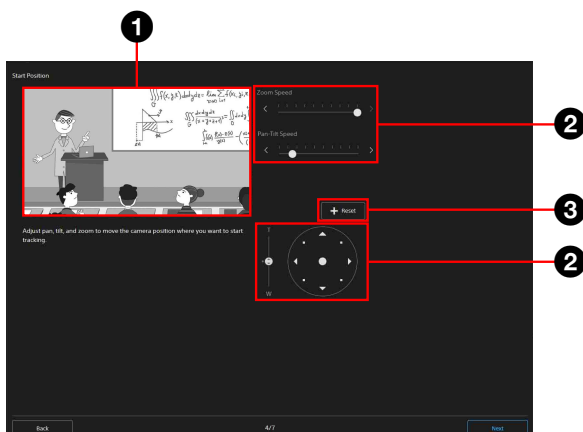
1 Automatic Target Selection

When this setting is enabled, the camera automatically starts tracking the person who enters the start position detection area. When this setting is disabled, you will have to manually select the target when you start PTZ Auto Framing.

Start Position

Sets the Start Position which starts PTZ Auto Framing.

Returns to the start position when [Restart] button is pressed in the live operation screen. Also, when the subject is lost, returns to this angle of view and detects the subject again.



1 Camera video section

Displays the current camera video. Adjust the start position referring to this video.

2 Angle of view control section

Operates pan, tilt, or zoom to adjust the start position.

Each movement speed of pan/tilt and zoom can be adjusted.

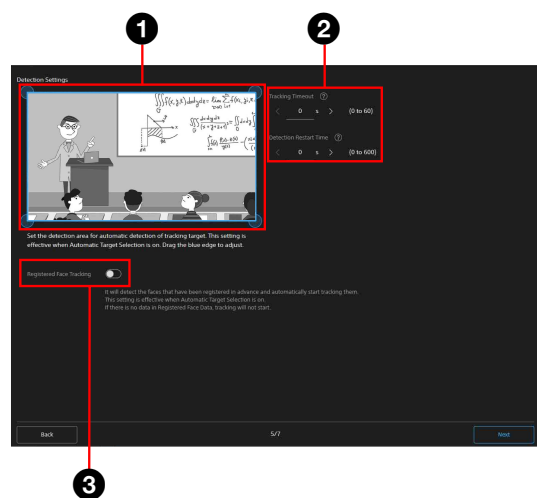
3 Pan-Tilt Reset

Performs the initialization movement for the pan/tilt.

Press when the POWER lamp and NETWORK lamp are flashing simultaneously or when [Execute Pan-Tilt Reset.] is displayed in the angle of view control section.

Detection Settings

Configures the setting for detecting the object of PTZ Auto Framing.



1 Detection region setting section

When PTZ Auto Framing is enabled and the object enters into view here, the object is detected automatically and the camera starts tracking it.

The detection region setting is enabled when [Automatic Target Selection] is On. Drag the blue edge to adjust.

2 Tracking setting section

You can set the timeout and restart times for tracking.

3 Registered Face Tracking

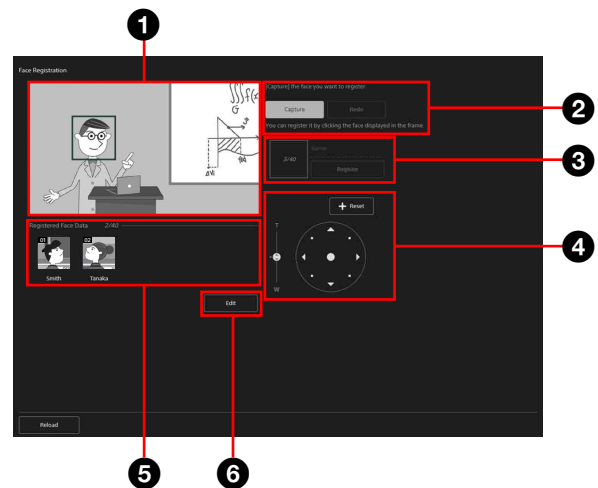
Detects pre-registered faces and starts tracking automatically. This setting is enabled when [Automatic Target Selection] is On. Tracking will not start automatically if there is no face data registered.

Tracking setting section

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Tracking Timeout	0 to 60 (seconds)	0	Set the wait time before the camera automatically stops tracking a subject it can no longer detect in the case that this subject was automatically detected and was being tracked when the camera became unable to detect the subject's face. When tracking subjects are being automatically detected, if the camera cannot detect a subject's face, this subject will not be selected. The default value is 0 seconds. When 0 is set, this function does not operate.
Detection Restart Time	0 to 600 (seconds)	0	Valid when the tracking subject is detected automatically. Stops the tracking forcibly, returns to the start position and sets the interval for detecting the tracking subject again. After tracking starts when the setting time has passed, the camera returns to the start position to detect the subject again. The default value is 0 seconds. When 0 seconds is set, tracking does not start again.

Face Registration

You can register face data. When [Registered Face Tracking] under [Detection Settings] is On, the subject is automatically selected and tracked based on the registered face data.



- 1 Live view image display section**
Displays the live image from the camera. You can capture an image of the face of a person in the frame of this live image.
- 2 Capture button/Redo button**
Press the [Capture] button to stop the live image and display face frames on the faces that can be registered.
If you click the face in the displayed frame, an image is captured of the face in the face registration area.
If a face frame is not displayed on the face you want to register, press the [Redo] button to return to the live image display and try again.
- 3 Face Registration section**
You can specify a name for the captured face image and register the face. Face data can be registered for up to 40 persons.
- 4 Angle of view control section**
Operate the pan, tilt, and zoom functions to adjust the angle of view of the image being captured.
Adjust the angle of view to ensure that the subject being registered can be seen in the live view image display section.
Press **+ Reset** to reset the adjusted pan/tilt. Press this when the POWER lamp and NETWORK lamp are flashing simultaneously or when [Execute Pan-Tilt Reset.] is displayed in the angle of view control section.
- 5 Registered Face Data**
Displays the registered face data in the order of priority.

6 Edit button

Press the [Edit] button to display the edit screen. On this screen you can delete, rename, or change the order of priority of registered face data.

To delete, select the  for the face data.

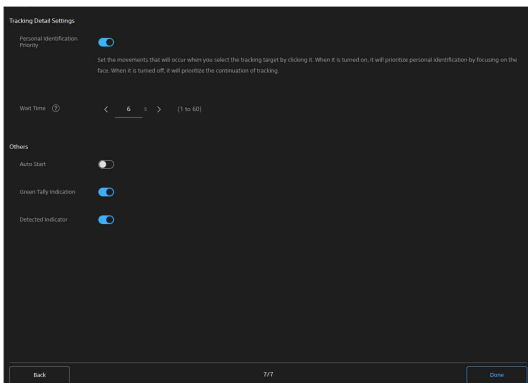
Press the [OK] button to apply the changes.

Notes

- Do not perform Face Registration operations on multiple browsers at once.
- In the case of the following, it may not be possible to register face data or face recognition may not function properly.
 - The face is not turned toward the camera.
 - The face is hidden by sunglasses, a mask, etc.
 - The face is too big or too small in the captured image.
 - The face is too close to the edge of the captured image.

Others

Performs the setting related to PTZ Auto Framing.



Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Personal Identification Priority	On / Off	On	Set how the camera responds when the subject is clicked and selected, regardless of whether [Automatic Target Selection] is enabled or disabled or whether face registration is enabled or disabled in advance. Set to On to prioritize face-based identification and to track only the selected subject. Set to Off to prioritize continued tracking. When set to Off, the camera will not move back to the start position after it loses track of the selected subject or after it tracks a subject by mistake. Instead, the camera will continue tracking by detecting and tracking a different subject pictured in the camera image section.
Wait Time	1 to 60 (seconds)	6	Set the wait time for when the camera loses track of the person being tracked. If [Automatic Target Selection] is enabled, the camera tries to redetect and track the subject. If [Automatic Target Selection] is disabled, the camera waits for the person that was being tracked to reappear on the screen. If the subject does not return to the screen, manually specify a new tracking subject. The default wait time value is 6 seconds.

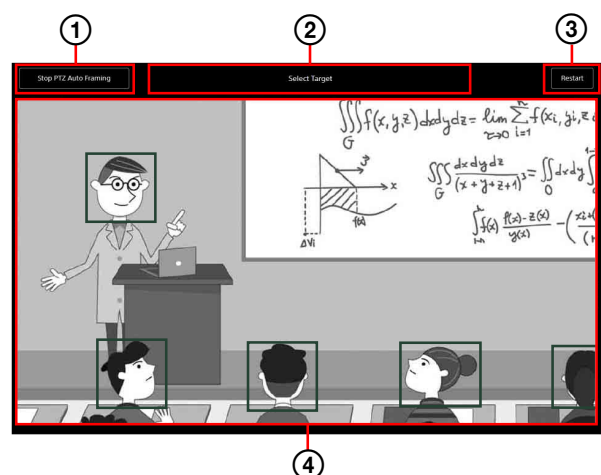
Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Auto Start	On / Off	Off	When the camera starts while this setting is valid, the camera moves to the start position automatically, and starts PTZ Auto Framing.
Green Tally Indication	On / Off	On	<p>When this setting is valid, the PTZ Auto Framing's status is displayed by the green tally lamp.</p> <p>Lights up: When tracking the subject</p> <p>Flashing: The tracking subject is lost and is in the standby state</p> <p>Lights off: Not operating</p> <p>Note</p> <p>When the tally lamp is turned on using the outside VISCA/ CGI commands, the tally lamp lights up, flashes in red, or turns off corresponding to the PTZ Auto Framing status.</p>
Detected Indicator	On / Off	On	<p>When PTZ Auto Framing starts while this setting is valid, the dark green frames to the selectable faces which are detected currently as the tracking subjects, the green frame to the face of the tracked subject are displayed on the Web App's live screen.</p> <p>Note</p> <p>When also the tracking object is not lost, Detected Indicator may not be displayed temporarily or the color of Detected Indicator may change, depending on the detecting situation.</p>

Location and function of PTZ Auto Framing execution screen

This section explains the location and functions of PTZ Auto Framing execution screen.

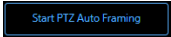
Notes

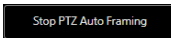
- Auto tracking movement may not be performed properly when the camera's focus or exposure are not set correctly. The shooting environment, including the brightness, lighting factors, the shooting angle (extreme overhead or low angle) and the person's density, size, clothing, movement, whether they are hidden by something, etc. may also affect the auto tracking movement.
- The face recognition function may not be performed properly when the following conditions are not satisfied.
 - The face is turned toward the camera.
 - Normal expression (eyes are closed, no extreme expressions such as anger, crying, etc.).
 - The face is not overly hidden (by sunglasses, a mask, etc.).
- Disable the Image Stabilizer function. When enabled, PTZ Auto Framing does not perform well.
- When PTZ Auto Framing is set or being performed and the [Tele Convert] and [Zoom Mode] settings, which affect the angle of view, are set differently, the auto tracking movement may not be performed properly. When [TELE CONVERT MODE] or [Zoom Mode] setting is changed, set [Start Position] and [Detection Settings] of [PTZ Auto Framing Settings] again.




For details, refer to the operations of each function.

① PTZ Auto Framing start / stop

 is displayed while the PTZ Auto Framing is stopped. Press this button to start PTZ Auto Framing.

 is displayed while PTZ Auto Framing is performed. Press this button to stop PTZ Auto Framing.

The initial setting is required beforehand using the PTZ Auto Framing tab. For details of the initial setting, refer to "Location and function of the PTZ Auto Framing Setting Screen" (page 56). Before the PTZ Auto Framing initial setting, it is displayed grayed out as  the operation cannot be performed.

② PTZ Auto Framing status display

Displays the PTZ Auto Framing status. These are the following 6 statuses.

Display value	Status
(non-display)	PTZ Auto Framing is off or the initial setting does not end.
Return to Start Position	Moving to the set start position.
Detecting (a/b)	Detecting the tracking subject. During multi-person tracking, the current number of persons detected (a) and the number of targets you have set to track (b) will be displayed.
Select Target	Click the face in the camera's video section to select the tracking subject.
Tracking (a/b)	Tracking the subject. During multi-person tracking, the current number of persons detected (a) and the number of targets you have set to track (b) will be displayed.
Target Lost	The selected tracking subject is lost.

Also while in the status of [Detecting], [Tracking] and [Target Lost], the tracking subject can be selected by clicking the face in the camera's video section.

③ Restart

Searches the tracking subject returning the start position forcibly while PTZ Auto Framing is performed.

When the auto selection of the tracking subject is valid on the detection setting of the PTZ Auto Framing setting, tracking of the detected subject starts automatically.

When the auto selection of the tracking subject is invalid, selection from the detected tracking subjects can be performed manually.

④ Tracking subject selection

When PTZ Auto Framing starts, the dark green frames to the selectable faces which are detected currently as the tracking subjects, the green frame to the face of the tracked subject are displayed.

Whether the Automatic Target Selection (page 58) is valid or not, click the face in the camera's video section to recognize the face of the tracking subject, to track only the subject. When the subject is lost, move to the configured start position, restart tracking when the same face is recognized.

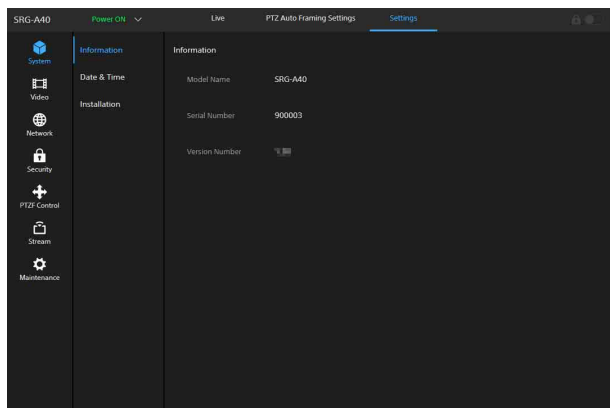
When you want to track the different subject, select the subject manually again. When you want to select the subject who is on the start position, perform [Restart] and then select the tracking subject.

When selecting the tracking subject manually while Automatic Target Selection is valid, Automatic Target Selection is invalid temporarily. Perform [Restart] to enable Automatic Target Selection again.

Setting Screen

Location and function of the setting screen

On the setting screen, you can set the camera's initial setting, network setting, and settings required for shooting in the Web App menu.



Note

The setting is not determined until the [OK] button in the Web App menu is pressed. When the setting is changed on the page where the [OK] button is displayed, make sure to press the [OK] button.

For details of the setting screen, refer to "Web App Menu Operation Method" (page 64).

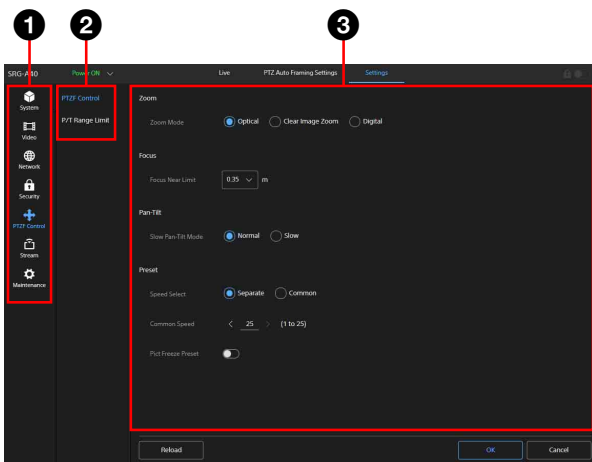
Web App Menu

Web App Menu Operation Method

Press the [Settings] tab of the operation screen switch section to display the camera's initial setting, network setting, or Web App menu which performs the settings required for shooting.

The Web App menu is set through computer mouse operations.

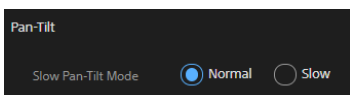
Press the desired menu to display the setting item and value which can be set in the menu.



- ① Menu (the first level)
- ② Menu (the second level)
- ③ Setting value

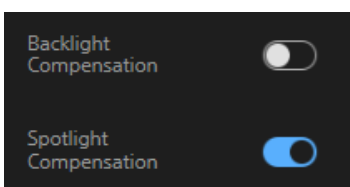
Operation method of the setting value

The setting value's selection



Press the radio button of the item. The radio button of the selected item lights up in blue.

On/Off selection



Press the switch to switch On/Off. The switch of the item which is On lights up in blue and in white for the item which is Off.

Selection from the list



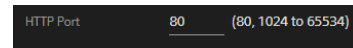
Select the item from the displayed list when the drop-down button is pressed.

Value selection



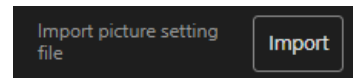
Press <, > to change the number. When the number is underlined, the number can be input directly.

Letter/number input



Setting in the other screen

You can also operate the setting in the other screen by pressing the button.



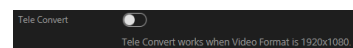
Setting by the slider

Drag the knob or press the horizontal <, > to change the number.



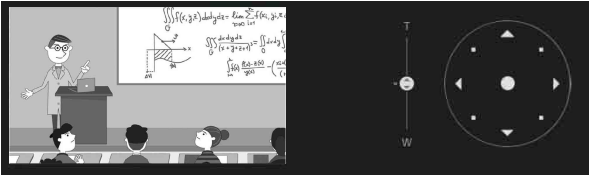
Operation Guide/Notice Message

Displays information that assist operations for some setting values as well as cautionary messages for users.



Angle of view's adjustment

The angle of view can be adjusted using the zoom slider and joystick.



Saving method of the setting

Save the setting by pressing the [OK] button at the bottom of the screen after the setting is completed.

Pressing [Cancel] button deletes the saved content and restores the settings to the previous status.

Press the [Reload] button to update the screen.



Notes

- Pressing the [Reload] button before the setting is saved deletes the setting contents.
- Moving to the other page before the setting is saved deletes the setting contents.

System Menu

Information

Displays the camera information.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Model Name	—	—	Displays the camera model name.
Serial Number	—	—	Displays the camera serial number.
Version Number	—	—	Displays the camera software version number.

Date & Time

Performs settings related to the inner clock.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Current Date & Time	—	—	Displays the current time set in this camera.
PC Clock	—	—	Displays the current time of the computer used for setting.
Date & Time Format	yyyy-mm-dd hh:mm:ss / mm-dd-yyyy hh:mm:ss / dd-mm-yyyy hh:mm:ss	yyyy-mm-dd hh:mm:ss	Sets the display format of the date/time.
Time Setting	Keep current setting/ Synchronize with PC/ Manual setting/ Synchronize with NTP	—	Selects the display format of the date/time.
yy-mm-dd hh:mm:ss	yy: 22 to 35 mm: 01 to 12 hh: 00 to 23 mm: 00 to 59 ss: 00 to 59	—	Displayed when [Time Setting] is [Manual setting]. Set the date and time manually.
NTP Auto	On/Off	Off	Displayed when [Time Setting] is [Synchronize with NTP]. Sets whether the IP address of the NTP server is acquired from the DHCP server or not.
NTP Server	IPv4/IPv6 Address/ Host Name	—	Displayed when [Time Setting] is [Synchronize with NTP] and [NTP Auto] is off at the same time. Specifies the NTP server for the time synchronization.
Time Zone	UTC -12:00 to UTC +14:00	—	Selects the time zone.

Installation

System

Configure the camera installation setting.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Image Flip	On/Off	Off	<p>Performs the image flip vertically. Set to On when the camera is installed on the ceiling.</p> <p>Note</p> <p>When the [Image Flip] setting is changed, the coordinates for pan and tilt are flipped, and the following are reset.</p> <ul style="list-style-type: none"> - Pan-Tilt limit (PAN-TILT LIMIT) - Preset - PTZ Auto Framing setting
IR Remote	On/Off	On	<p>Sets whether the operation by the supplied remote commander is valid or invalid. When using the supplied remote commander, turn it on to use.</p>
Tally Lamp Brightness	High/Low/Off	Low	<p>Sets the brightness of the tally lamp. Select Off to not light up the tally lamp.</p>
Tele Convert	On/Off	Off	<p>Sets tele convert. Turn to on to shoot using 2× magnification.</p> <p>Notes</p> <ul style="list-style-type: none"> • This is enabled only when the SYSTEM SELECT switch or format setting of video output is set to 1920×1080. • Setting [Tele Convert] to [On] narrows the angle of view. • When the [Tele Convert] setting is changed, set [Start Position] and [Detection Settings] of [PTZ Auto Framing Settings] again.
Menu Overlay (SDI)	On/Off	On	<p>Sets the OSD menu output to the SDI image. Turn to off in order not to output the OSD menu or message to SDI OUT.</p>
Menu Overlay (HDMI)	On/Off	On	<p>Sets the OSD menu output to the HDMI output image. Turn to off in order not to output the OSD menu or message to HDMI.</p>
Standby Mode	Neutral/Side	Neutral	<p>This is a function to move the pan position to the end automatically when the camera enters standby mode.</p> <p>[Neutral]: The pan position is not moved automatically.</p> <p>[Side]: The pan position is moved to the end automatically.</p> <p>Notes</p> <ul style="list-style-type: none"> • When the mode is set to [Side], the pan position is moved to the end, exceeding the limit even if the Pan-Tilt limit is specified. • After the camera is turned on from standby mode, the camera position moves to the position recorded on PRESET1.

Video Out

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Format	<p>59.94 Hz system 3840×2160/29.97p 1920×1080/59.94p (Level A) 1920×1080/59.94p (Level B) 1920×1080/59.94i 1920×1080/29.97p 1280×720/59.94p 1280×720/59.94p (HDMI:VGA)</p> <p>50 Hz system 3840×2160/25p 1920×1080/50p (Level A) 1920×1080/50p (Level B) 1920×1080/50i 1920×1080/25p 1280×720/50p</p> <p>23.98 Hz system 3840×2160/23.98p 1920×1080/23.98p</p>	1920×1080/59.94p (Level A)	<p>Sets the video output method (video format) with which to output from the HDMI and SDI OUT terminal. Settings can be changed from this menu when setting the SYSTEM SELECT switch to 6. When the SYSTEM SELECT switch is set to a number other than 6, the setting statuses of the SYSTEM SELECT switch and the SDI format level of the CAMERA SETUP switch are displayed.</p> <p>Notes</p> <ul style="list-style-type: none"> • [3840×2160/29.97p], [3840×2160/25p] and [3840×2160/23.98p] are only for HDMI output and do not output from SDI OUT. • When [1280×720/59.94p (HDMI:VGA)] is displayed, [1280×720/59.94p] is only for SDI output, and VGA for HDMI output. • The setting cannot be changed when the setting SYSTEM SELECT switch is set to a number other than 6.
Color Space	YCbCr/RGB	YCbCr	Sets the HDMI output color space.

Video Menu

Picture Setting File

Export / Import (Picture Setting File)

You can export the picture settings of the camera as a picture setting file or import picture setting files saved in the computer to reflect them on the camera. See “Preset Items and Image Setting File Items” (page 98) for items you can export or import by picture setting files.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Export picture setting file	—	—	Export the current picture setting information as a picture setting file to the computer. The dialog to select the destination appears by clicking [Export]. Select the destination to export the picture setting file.
Import picture setting file	—	—	Reflect the picture setting file on the camera by importing the file saved in the computer. The dialog appears by clicking [Import]. Select the file. After selecting the file, click [OK] on the pop-up screen to reflect the settings on the camera, and then the Picture tab will be reloaded.

Keep current picture settings after reboot

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Save to Preset 1	—	—	<p>The picture setting registered to Preset 1 is applied to the camera when you turn it on. After importing the picture setting file, or after changing the picture setting on the Menu, click [Save] to register the setting to Preset 1.</p> <p>Notes</p> <ul style="list-style-type: none">• The items to be saved are the contents of picture setting files imported in advance and the items changed on the [Video] tab afterward.• You cannot import/export picture setting files from the OSD menu.• The other setting items registered to Preset 1 in advance are not changed. Refer to “Preset Items and Image Setting File Items” (page 98) for the other setting items.

Exposure

Set the exposure adjustment.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Mode	Full auto/Shutter priority/Iris priority/Manual	Full auto	<p>Configure the exposure setting.</p> <p>[Full auto]: The camera performs gain, iris, and shutter speed adjustments automatically.</p> <p>[Shutter priority]: The camera performs gain and iris adjustments automatically, and you can select the shutter speed.</p> <p>[Iris priority]: The camera performs gain and shutter speed adjustments automatically, and you can select the iris (aperture).</p> <p>[Manual]: You can manually adjust gain, iris, and shutter speed.</p> <p>Note</p> <p>Depending on the setting options, the range set by turning On/Off the high-sensitivity mode may differ. You cannot set the high-sensitivity mode from the menu. Referring to the Command List, change the setting from the VISCA/CGI command.</p>
Exposure Compensation	-7 to +7	0	<p>Adjust the target brightness for the automatic exposure setting.</p> <p>Selecting a higher value brightens the image and a lower value darkens the image. This function can be selected only when [Mode] is set to [Full auto], [Shutter priority], or [Iris priority].</p>
Backlight Compensation	On/Off	Off	<p>Compensates the exposure to make the subject easy to see when the shooting environment is affected by a back light.</p> <p>This function can be selected only when [Mode] is set to [Full auto], [Shutter priority], or [Iris priority].</p>
Spotlight Compensation	On/Off	Off	<p>Darkens the exposure when a part of the object such as a spotlighted face is bright.</p> <p>The spotlight compensation function is disabled when the checkbox of [Backlight Compensation] is selected.</p> <p>This setting is available when [Mode] is set to [Full auto], [Shutter priority], or [Iris priority].</p>
AE Speed	1 to 48	1	<p>Select the adjustment speed for exposure adjustment.</p> <p>You can select the speed at which the camera reaches the optimum exposure setting from 1 (standard) to 48 (slow). Select when the brightness of the object changes instantaneously.</p> <p>This setting is available when [Mode] is set to [Full auto], [Shutter priority], or [Iris priority].</p>
Visibility Enhancer	On/Off	Off	<p>In high-contrast scenes such as scenes against a back light, this function reduces overexposure and underexposure.</p>
Effect	-3 to +3	0	<p>Set the level of the Visibility Enhancer.</p>
Iris	F2 / F2.2 / F2.4 / F2.6 / F2.8 / F3.1 / F3.4 / F3.7 / F4 / F4.4 / F4.8 / F5.2 / F5.6 / F6.2 / F6.8 / F7.3 / F8 / F8.7 / F9.6 / F10 / F11 / Close	F2	<p>Select the iris value.</p> <p>This function can be selected only when [Mode] is set to [Iris priority] or [Manual].</p>

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Gain	0/3/6/9/12/15/18/21/24/27/30/33/36 (When high-sensitivity mode is set to Off) 0/3/6/9/12/15/18/21/24/27/30/33/36/39/42/45/48 (When high-sensitivity mode is set to On)		Select the gain. This function can be selected only when [Mode] is set to [Manual].
AGC Limit	9/12/15/18/21/24/27/30/33/36 (When high-sensitivity mode is set to Off) 21/24/27/30/33/36/39/42/45/48 (When high-sensitivity mode is set to On)	36	Select the maximum gain value of automatic exposure control. This function can be selected only when [Mode] is set to [Full auto], [Shutter priority], or [Iris priority]. You cannot set a value lower than [Gain Point Level].
Gain Point	On/Off	Off	When you set the lower limit of the shutter speed to be lower than the output image frame rate, the shutter speed controls exposure based on the [Gain Point] setting. Normally, when exposure is adjusted with sensitivity, noise is prominent when sensitivity is increased to brighten the image. You can decrease noise by adjusting the exposure through lower shutter speeds instead of adjusting with sensitivity. For this exposure adjustment, enable [Gain Point] and set the sensitivity value to be changed to the shutter speed in [Gain Point Level]. When the shutter speed reaches the lower limit for exposure adjustment, the sensitivity will increase again to adjust exposure. This setting is available when [Mode] is set to [Full auto] or [Iris priority].
Gain Point Level	0/3/6/9/12/15/18/21/24/27/30/33/36 (When high-sensitivity mode is set to Off) 0/3/6/9/12/15/18/21/24/27/30/33/36/39/42/45/48 (When high-sensitivity mode is set to On)		When the sensitivity during exposure adjustment reaches the value of [Gain Point Level], the exposure will be adjusted through a lower shutter speed. You cannot select a value that exceeds [AGC Limit]. This setting is available when [Mode] is set to [Full auto] or [Iris priority] and the checkbox of [Gain Point] is selected.
Shutter Speed	1/1 to 1/10000	1/60 (in the case of 1/59.94) 1/50 (in the case of 50) 1/30 (in the case of 29.97) 1/25 (in the case of 25) 1/48 (in the case of 23.98)	Select the shutter speed. This function can be selected only when [Mode] is set to [Shutter priority] or [Manual]. Note When you switch to a shutter speed value that had been changed greatly, it may take some time to apply the setting value. During that time, the setting value on the display does not match the actual setting value. By reloading the web browser, the correct setting value is displayed.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Auto Shutter Limit	For details, refer to "MAX SPEED" (page 45), "MIN SPEED" (page 46).	Slowest: 1/60 (in the case of 59.94) 1/50 (in the case of 50) 1/25 (in the case of 29.97, 25) 1/48 (in the case of 23.98) Fastest: 1/2000 (in the case of 59.94, 29.97) 1/1750 (in the case of 50, 50) 1/1200 (in the case of 23.98)	Set the minimum and maximum shutter speed. This setting is available when [Mode] is set to [Full auto] or [Iris priority].
Auto Slow Shutter	On/Off	Off	Set the auto slow shutter function. This function can be selected only when [Mode] is set to [Full auto].

White Balance

Sets the white balance.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Mode	Auto1/Auto2/ Indoor/Outdoor/ One push WB/ Manual	Auto1	Select a white balance mode. [Auto1]: Automatically adjusts the color reproduction closer to the image you are viewing (approximately 2500 K to 7500 K). [Auto2]: Eliminating the influences caused by environmental illumination or lights, and automatically adjusts the color reproduction closer to the original color of the object (approximately 2000 K to 10000 K). [Indoor]: Set a white balance suitable for indoor photography. [Outdoor]: Set a white balance suitable for outdoor photography. [One push WB]: Select to enable [Offset] and [WB Set]. [Manual]: Set [R Gain] and [B Gain]. Select gain values from 0 to 255.
Speed	1 to 5	3	When the white balance mode is set to [Auto1] or [Auto2], you can adjust the speed at which the camera reaches the white convergence point. The lower the value, the slower the convergence. The higher the value, the faster the convergence.
Offset	0 to 14	7	When the white balance mode is set to [Auto1], [Auto2], or [One push WB], you can adjust the shift amount of the white convergence point. White balance is shifted towards blue when a lower value is selected, and it is shifted towards red when a higher value is selected.
WB Set	—	—	Press [Run] to adjust the white balance. Shoot and zoom into a large white object in the center of the screen before adjustment.
R Gain	0 to 255	—	White balance can be manually adjusted in a range from 0 to 255. This setting is enabled only when [Mode] is set to [Manual].
B Gain	0 to 255	—	White balance can be manually adjusted in a range from 0 to 255. This setting is enabled only when [Mode] is set to [Manual].

Detail / NR

Detail

Selects the sharpness.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Mode	Auto/Manual	Auto	When you select [Auto], the contour correction signal is automatically added. When you make adjustments manually, select [Manual].
Level	-7 to +8	0	The higher the value, the sharper the image. The lower the value, the softer the image.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Bandwidth	Standard/Low/Middle/High/Wide	Standard	You can set the bandwidth for signals undergoing contour emphasis. For example, when you select [Middle], the middle range of the signals is elevated and contours in that middle range are emphasized.
Crispening	0 to 7	3	You can set the fineness for the objects to which contour correction signals are added. When you select a higher value, minute contour correction signal elements are removed, and only the high level contour correction signals which reduces noise are left. When you select a lower value, minute contour correction signal elements which increases noise are added to the video.
HV Balance	-2 to +2	0	You can set the aspect ratio for contour correction signal elements. When you select a higher value, the horizontal contour correction elements become greater compared to the vertical elements.
BW Balance	Type 0/Type 1/Type 2/Type 3/Type 4	Type 2	You can adjust the balance between contours in black on the low brightness side and contours in white on the high brightness side. The ratio of contours in black is higher for [Type 0] while the ratio of contours in white is higher for [Type 4].
Limit	0 to 7	3	You can set the maximum value for the amount of contour emphasis in black on the low brightness side and in white on the high brightness side.
Highlight Detail	0 to 4	0	You can adjust the contour level added to brightly-lit objects. The higher the value, the greater the contour emphasis. Set when you want to emphasize the contour of a brightly-lit object in a bright background.
Super Low	0 to 7	3	Emphasizes contours in the super low range. The higher the value, the greater the contour emphasis. Contrast and resolution increase.

High Resolution Mode

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
High Resolution Mode	On/Off	Off	Enable emphasizing edges for higher-resolution images. Notes <ul style="list-style-type: none"> When enabled, image noise may increase. When [Mode] is set to [Manual] in [Detail], the function is not available.

NR

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
NR Mode	Simple/Advanced	Simple	Select the noise reduction setting. [Simple]: Sets the noise reduction strength of 2D/3D at the same level and removes noise simultaneously. [Advanced]: Sets the noise reduction strength of 2D/3D individually and removes noise simultaneously.
NR (XDNR)	0 to 5	3	Sets the noise reduction level. When selecting [0], the noise reduction function is turned to Off. The higher the number, the greater the noise reduction effect. You can set when [NR Mode] is set to [Simple].

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
2D NR Level	0 to 5	3	Sets the noise reduction level. When selecting [0], the noise reduction function is turned to Off. The higher the number, the greater the noise reduction effect. You can set when [NR Mode] is set to [Advanced].
3D NR Level	0 to 5	3	Sets the noise reduction level. When selecting [0], the noise reduction function is turned to Off. The higher the number, the greater the noise reduction effect. You can set when [NR Mode] is set to [Advanced].

Day/Night ICR

Day/Night ICR

Sets the Day/Night ICR function of the camera.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Mode	Day/Night/Auto	Day	Select Day/Night ICR mode. In Day mode, the IR cut filter is enabled to remove unnecessary IRs. [Day]: Day mode is applied. [Night]: Night mode is applied. The picture becomes monochrome. [Auto]: The mode switches automatically between Day/Night ICR. Note When [Auto] is selected, set the exposure mode to [Full auto].
Status	—	—	Displays the Day/Night function status.
Threshold	0 to 255	14	When Day/Night ICR mode is set to [Auto], select a level to switch from [Night] to [Day] in the range from 0 to 255. The mode is subject to change from Night mode to Day mode the smaller the selected value is. Note If a higher value is selected, the mode may not be switched to the Day mode even when the object is bright. In this case, select a lower value.

Focus

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Near-IR Correction	On/Off	Off	Performs the compensation appropriate to locations where there is a large amount of near short infrared rays or when using the IR lamp. Select the checkbox to increase auto-focus accuracy in night mode.

Others

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Image Stabilizer	On/Off	Off	<p>Enables displaying steadier images when the camera is installed in a place subject to vibration.</p> <p>Notes</p> <ul style="list-style-type: none"> • When the Image stabilizer function is set, the angle of view of the image will be smaller than usual. • Depending on the vibration frequency, Image stabilizer may not work even when it is set. • Select the checkbox of [Image Stabilizer] when installing the camera. • When PTZ Auto Framing is used, set this setting to [Off].
Flicker Cancel	On/Off	Off	<p>Enables the flicker correction feature.</p> <p>Notes</p> <ul style="list-style-type: none"> • Depending on conditions such as the type of illumination and shutter speed, the flicker correction feature may not be effective. • If the shooting frame rate is close to the power supply frequency, the flicker correction feature may not be able to fully remove flickers even when it is enabled. If this happens, adjust the shutter speed. • We recommend you to clear the checkbox of [Flicker Cancel] when shooting under lights where no flicker is generated, such as outdoors.

Network Menu

Network

Configures the camera network setting.

Status

Displays the current network status.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Host Name	—	—	Displays the host name of the camera.
MAC Address	—	—	Displays the MAC address of the camera.
Ethernet Status	—	—	Displays the current transmission rate.
IP Address	—	—	Displays the current IP address.
Subnet Mask	—	—	Displays the current subnet mask.
Gateway	—	—	Displays the current gateway address.
Primary DNS Server	—	—	Displays the current primary DNS server.
Secondary DNS Server	—	—	Displays the current secondary DNS server.
IPv6 Address 1	—	—	Displays the current IPv6 address.
IPv6 Address 2	—	—	Displays the current IPv6 address.
IPv6 Gateway	—	—	Displays the current IPv6 default gateway.
Link-local IPv6 Address	—	—	Displays the current link-local IP address.

IPv4

Configures the IPv4 network setting.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
DHCP	On/Off	On	Turn On/Off [DHCP].
IP Address	—		Set the IPv4 address when [DHCP] is set to off.
Subnet Mask	—		Set the subnet mask when [DHCP] is set to off.
Gateway	—		Set the IPv4 default gateway when [DHCP] is set to off.

IPv6

Configures the IPv6 network setting.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Obtain an IP Address Automatically	On/Off	On	Turn On/Off automatic acquisition of the IP address.
IP Address	—	—	Set the IPv6 address when [Obtain an IP Address Automatically] is set to off.
Prefix Length	0 to 128	64	Set the prefix length when [Obtain an IP Address Automatically] is set to off.
Gateway	—	—	Set the IPv6 default gateway when [Obtain an IP Address Automatically] is set to off.

Common

Configures the IPv4 and IPv6 network setting.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
HTTP Port	80, 1024 to 65534	80	Set the HTTP port number.
DNS Auto	On/Off	On	Enables obtaining the DNS address from the DHCP server. Displayed when [DHCP] of IPv4 or [Obtain an IP Address Automatically] of IPv6 is enabled.
Primary DNS Server	IPv4/IPv6 Address	—	Set the primary DNS server.
Secondary DNS Server	IPv4/IPv6 Address	—	Set the secondary DNS server.
Camera Name	—	A40 (SRG-A40) A12 (SRG-A12)	Set the camera name.

Security Menu

User

Administrator and User

This camera identifies those who log in as the "Administrator" or "User."

The "Administrator" can use all the functions of this camera including camera settings.

"User" can select user sections specified as available functions (access rights) in the [Viewer Mode]. The user section includes [Administrator] which can set all the functions as well as [Full] and [Light].

Each type of user can use the corresponding functions below.

Function	Administrator	User	
		Full	Light
Monitor a live image	○	○	○
Operate the live operation screen	○	○	—
Operate the PTZ Auto Framing setting screen	○	○	—
Control the setting screen	○	—	—
Control the power	○	—	—

○ Usable function, — Non-usable function

User

Set the user name and passwords of Administrator and up to 9 types of users (User 1 to User 9) as well as the viewer mode of each user. Enter your password in [Current Password] when changing the user name and password or deleting the user.

When adding a new user, it is unnecessary to enter [Current Password]. Enter a new user name in [User Name] and enter a password in [New Password] and [Re-Type Password].

Menu item		Detail and setting value	Initial setting value of the factory default setting	Content
Administrator	User Name	—	admin	Enter a user name between 5 and 16 alphanumeric characters.
	Current Password	—	—	Enter the current password.
	New Password	—	—	Enter a password between 8 and 64 alphanumeric characters. Your password should be alphanumeric.
	Re-Type Password	—	—	To confirm the password, retype the password that you entered in the [New Password] box.

Menu item		Detail and setting value	Initial setting value of the factory default setting	Content
User 1 to 9	User Name	—	—	Enter a user name between 5 and 16 alphanumeric characters.
	Current Password	—	—	Enter the current password.
	New Password	—	—	Enter a password between 8 and 64 alphanumeric characters. Your password should be alphanumeric.
	Re-Type Password	—	—	To confirm the password, retype the password that you entered in the [New Password] box.
	Viewer Mode	Administrator/ Full/Light	Full	You can select the viewer mode to be displayed after authentication when the viewer is displayed. [Administrator]: The user can operate all functions including the setting screen in this mode. [Full]: The user can operate all functions other than the setting screen and power. [Light]: The user can display the live image.

Access Limit

This allows you to control which computers can have access to the camera. Likewise, when using IPv6, security settings can be configured for each network.

Access Limit

Set an access limit to the camera.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Setting	On/Off	Off	Enables the access limit.

Rule

Set rules for the access limit of the camera.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Default Policy	Allow/Deny	Deny	Select the basic policy of the limit from [Allow] and [Deny] for the computers with the network address that are not specified in the [Network Address/Subnet 1] to [Network Address/Subnet 10] menus below.

Menu item		Detail and setting value	Initial setting value of the factory default setting	Content
Network Address/ Subnet 1 to 10	Network Address	—	—	Enter the network addresses that you want to allow or deny access to the camera. You can specify up to 10 network addresses.
	Subnet	8 to 32 (when IPv4) 8 to 128 (when IPv6)	8	Enter the subnet mask values that you want to allow or deny access to the camera. You can specify up to 10 subnet mask values. For a subnet mask, enter from 8 to 32. (For IPv6, enter a value between 8 and 128.) Note The subnet mask value represents the number of bits from the left side of the network address. For example, the subnet mask value for "255.255.255.0" is 24. If you set "192.168.0.0/24" and [Allow], you can allow access from computers having an IP address between "192.168.0.0" and "192.168.0.255".
	Default Policy	Allow/Deny	Allow	Set [Allow] or [Deny] for access to [Network Address/Subnet]. Note You can access the camera even from a computer with an IP address whose access right is set to [Deny] if you enter the user name and password set for the Administrator in the User tab of the Security menu in the authentication screen.

SSL

Configure the SSL or TLS function (called "SSL" hereafter). The settings allow the camera to communicate with the client computer by using SSL.

Notes

- When using the SSL function, always configure the settings after setting the date and time of the camera. If the date and time are not correctly set, it may cause web browser connection problems.
- Reload the window when you change the SSL setting. Press the F5 key on the keyboard to reload.

When you use SSL connection for the first time

When you use SSL connection only by setting the SSL function to [Enable], you cannot access the camera if the SSL function does not work properly.


In this case, you must reset the camera to the factory settings. (All settings will be initialized.) To avoid this, check that SSL connection is possible by performing the following steps.

- 1** Set the SSL function to [Enable (Allow HTTP connection for some clients)].
- 2** Click [OK] to close the web browser.
- 3** Display the viewer in SSL connection.
For details, see "When the SSL Function is Used" (page 50).
- 4** After confirming that SSL connection is possible, set the SSL function to [Enable].

Even if the web browser is closed as SSL connection is impossible, HTTP connection will be possible if [Enable (Allow HTTP connection for some clients)] is selected. First check the setting contents of the SSL tab in HTTP connection, then check the SSL connection again.

If [Enable (Allow HTTP connection for some clients)] is not selected, you will not be able to access the camera when SSL connection becomes impossible. In this case, press the reset switch on the camera for 5 seconds or longer to return to the factory default settings. For details, see page 9.

Note

SSL connection will apply load to the camera; therefore, not all images may be downloaded, and the  mark may appear when the camera accesses from the web browser. In this case,

reload the window. Press the F5 key on the keyboard to reload.

SSL Server Authentication

Certificate Options

Select an installation mode of the certificate.

[Use an external certificate]: Uses the certificate including private key information issued by a CA. The PKCS#12 and PEM formats are supported.

Note

SSL is not available when [Certificate Options]-[Use an external certificate] is selected, or a certificate and private key password is not set properly even if SSL is set to [Enable].

[Use a self-signed certificate (For test use)]:

This mode uses the certificate and private key pair generated by "Self-Signed Certificate Generation" (page 83). Private key information corresponding to the certificate is stored in the camera.

You do not need to install an external certificate. However, you cannot execute the existence proof, which is one of the SSL functions, for the following reasons.

- The private key generated in the camera is self-signed by the camera.
- A prepared value is set for a distinguished name (Common name, etc).
- The certificate is not issued by a trusted CA.

For reasons of security, we recommend using this mode only when there is no problem even if perfect security, such as for operation tests, is not ensured.

Notes

- When [Use a self-signed certificate (For test use)] is selected, the Security Alert dialog appears on the SSL connection with a web browser.
For details, see "When the SSL Function is Used" (page 50).
- When [Use a self-signed certificate (For test use)] is selected, you may not be able to use the SSL connection depending on the web browser or OS you are using.

To import the certificate

Click [Import] to select the certificate to be imported. Follow the on-screen instructions to import the certificate to the camera.

Note

The import process becomes invalid if the selected file is not a certificate or the imported certificate is not allowed.

Self-Signed Certificate Generation

A self-signed certificate can be generated in the camera to be used when [Use a self-signed certificate (For test use)] is selected from [Certificate Options].

Click [Generate] to generate a self-signed certificate in the camera. Clicking [Generate] again after [Generate] has been clicked once will update the self-signed certificate stored in the camera.

Note

Make sure to set the date and time on the camera correctly before performing this operation. If the date and time are not correctly set, it may cause web browser connection problems. Before selecting [Generate] in [Self-Signed Certificate Generation], click [OK] to select [Use a self-signed certificate (For test use)] in [Certificate Options].

To display certificate information

When the certificate has been set in the camera correctly, its information appears on [Status], [Issuer DN], [Subject DN], [Available Period], and [Extended Key Usage].

Status

Shows if the status of the certificate is valid or invalid. The following statuses are recognized.

[Enable]: The certificate is correctly stored and set.

[Disable]: The certificate is not correctly stored and set.

Possible causes are as follows:

- [Use an external certificate] is selected and the private key password included in the certificate is not specified correctly.
- [Use an external certificate] is selected and the private key password is specified in spite of the fact that the key pair in the certificate is not encrypted.
- [Use an external certificate] is selected and the key pair is not included in the certificate.
- [Use a self-signed certificate (For test use)] is selected without the self-signed certificate being generated.

Note

When the certificate to be imported is of PKCS#12 format and the private key password is not set correctly, "<Put correct private key password>" is

displayed in the boxes of [Issuer DN], [Subject DN], [Available Period], and [Extended Key Usage].

Specify the correct private key password to confirm the information of the certificate.

To delete the imported certificate or self-signed certificate

Click [Delete] to delete the certificate or self-signed certificate imported to the camera.

Private Key Password

Enter the password for the private key information included in the certificate using up to 50 characters. This text box is active only when [Certificate Options] is set to [Use an external certificate].

Leave the text box blank if the private key information included in the certificate is not encrypted.

If no private key password is set in the camera, an active text field, which allows a password to be entered, is displayed.

If a private key password is already set, it is displayed as an inactive text field.

Clear

To change the once set private key password, click [Clear] and clear the current password. A new password can be entered.

Note

Click [Cancel] at the bottom of the menu if you want to cancel changing the private key password after clicking [Clear]. Doing so restores the other setting items in the SSL tab to the previous settings.

Referer Check

Referer Check is a function that checks if the web page which requires access to the camera is authorized. If the web page is not authorized, the camera denies access of the web page. If you want to access from web pages other than the one that the camera provides, register their host names and port numbers in the [Exception List].

Referer Check

Menu item		Detail and setting value	Initial setting value of the factory default setting	Content
Setting		On/Off	On	Enable the Referer Check.
Exception List	No.	—	—	Select the registration number for the Exception List.
	Host Name	—	—	Enter the host name or IP address of the computer that supplies the web page you want to register on the Exception List.
	Port Number	—	80	Enter the port number of the computer that supplies the web page you want to register on the Exception List.
	Set	—	—	Register the values of the [Host Name] and [Port Number] you entered to the list of the selected number.
	Delete	—	—	Delete the contents of the list selected with [No.].

Brute Force Attack Protection

Brute force attack means an attack method by trying every possible pattern of password in sequence. This camera has a function to prevent the brute force attack.

The attack is detected and the following are displayed at the bottom of the screen.

- Applies to the HTTP and RTSP accesses.
- Does not monitor the Brute force attack to the RTSP access when the RTSP authentication is off.

Brute Force Attack Protection

Set for the Brute Force Attack Protection function.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Setting	On/Off	On	Enable the Brute Force Attack Protection function.
Count	3 to 100	8	Set the count number for attacker detection authentication failure. This can be set when [Setting] is enabled.
Release Mode	Always/Timer	Timer	Set the mode to release attacker detection. This can be set when [Setting] is enabled. [Always]: Once registered in the attacker list, it will not be released. [Timer]: Release after the time set in [Release Time] has passed. Note The attacker list is released whenever the camera is rebooted even if [Release Mode] is in either case; [Always] and [Timer].
Release Time	30 to 86400	60	Set the time to release the attacker detection. This setting is available when [Setting] is enabled and [Release Mode] is set to [Timer] at the same time.

PTZF Control Menu

PTZF Control

Configure the pan/tilt, zoom, and focus setting.

Zoom (SRG-A40)

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Zoom Mode	Optical / Clear Image Zoom / Digital	Optical	Select the range of zooming. [Optical]: An image can be zoomed up to 20× optical zoom. [Clear Image Zoom]: An image is zoomed with less deterioration of image quality over the optical region. Zooming is up to 1.5× when the video output format is 3840×2160, and up to 2× for other formats. [Digital]: An image can be zoomed up to 20× optical zoom and 12× digital zoom (including Clear Image Zoom) with up to a total of 240× zoom. Note When [Zoom Mode] setting is changed, set [Start Position] and [Detection Settings] of [PTZ Auto Framing Settings] again.

Focus

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Focus Near Limit	0.08 / 0.17 / 0.35 / 0.6 / 1 / 2 / 5	0.35	Set the range at which to automatically focus. If a subject is nearer than the set range, it will not be focused. The value is for reference.

Pan-Tilt

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Slow Pan-Tilt Mode	Normal / Slow	Normal	When [Slow] is selected, pan-tilt is set to [Slow Pan-Tilt Mode]. The setting cannot be changed while performing PTZ Auto Framing.

Preset

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Speed Select	Separate / Common	Separate	Select the preset recall speed. [Separate]: Pan/tilt works with the speed set by each preset. [Common]: Pan/tilt works with the common speed to all presets.
Common Speed	1 to 25	25	This is enabled when [Speed select] is [Common]. Pan/tilt speed for a preset recall which is common to all presets.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Pict Freeze Preset	On / Off	On	Select the output image state for preset recall. When the checkbox is selected, frozen images are output during preset recalling.

P/T Range Limit

Range Limit

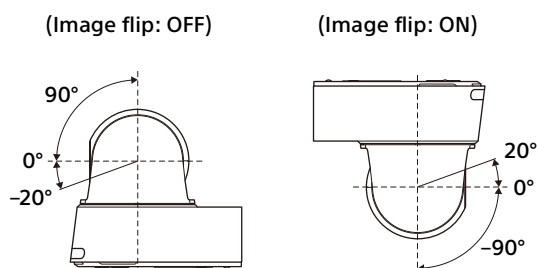
Set the pan/tilt range limit.

Notes

- Switching Image Flip on/off turns the Pan-Tilt limit setting to the factory setting. Set the Image flip function in accordance with the installation condition of the camera and select the value.
- When the [Range Limit] setting of pan/tilt is changed, confirm the [Start Position] tab setting of the [PTZ Auto Framing Settings] screen. When the setting range of [Range Limit] does not correspond to the start position, PTZ Auto Framing may not be performed as you intended.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Setting	On / Off	Off	Pan/tilt range can be limited. When this setting is valid, the following settings can be selected. Note Switching Image flip on/off turns the Pan-Tilt limit setting to the factory setting. Set the Image flip function in accordance with the installation condition of the camera and select the value.
Left	-170 to 169	-170	Set the limit of the pan's left end. Adjustable in 1 degree increments.
Right	-169 to 170	170	Set the limit of the pan's right end. Adjustable in 1 degree increments.
Up	-19 to 90 (Image Flip: Off) -89 to 20 (Image Flip: On)	90 (Image Flip: Off) 20 (Image Flip: On)	Set the limit of the tilt's upper end. Adjustable in 1 degree increments.
Down	-20 to 89 (Image Flip: Off) -90 to 19 (Image Flip: On)	-20 (Image Flip: Off) -90 (Image Flip: On)	Set the limit of the tilt's downward end. Adjustable in 1 degree increments.
Set Current Value	—	—	The current position can be reflected to each setting value.
Reset	—	—	Return the setting value to the initial value.

Setting the range of the Up/Down movement



Stream Menu

Stream

Note

When the Streaming tab settings are changed, RTSP streaming is temporarily interrupted. Therefore, the screen turns black for a moment when the viewer is displayed on other web browsers.

Stream Setting

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Setting	RTSP/SRT-Caller/ SRT-Listener/ NDI HX/Off	RTSP	The setting items corresponding to the selected mode are displayed.

RTSP

This setting item is displayed when [Stream Setting] is set to [RTSP].
Make settings related to RTSP Streaming.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Port Number	554, 1024 to 65534	554	Set the port number for RTSP.
Time Out	0 to 600	60	Specify the time for time out by the Keep-Alive command from RTSP streaming. At the [0] setting, time out of the Keep-Alive command is not available.
Authentication	On/Off	On	Set whether or not to perform user authentication for RTSP streaming. When enabled, the user name and password set in [User] will be authenticated. The viewer cannot be displayed unless the correct user name and password are entered. Notes <ul style="list-style-type: none">• The RTSP authentication setting affects acquisition of the RTSP streaming on programs other than a web browser. When you want to prevent getting the streaming by users other than the ones you set, set [Authentication] to On to use the camera.• When the setting is changed, RTSP streaming is temporarily interrupted. Therefore, the screen turns black for a moment when the viewer is displayed on other web browsers.
Video Port Number 1	1024 to 65534	51000	Specify the transmission port number for video data used for RTSP unicast streaming.
Video Port Number 2	1024 to 65534	53000	Specify an even number in the setting range. Two port numbers (the number specified here and an odd number with 1 added to the specified number) are actually used for video data communication and control. When performing simultaneous multi-transmissions, a different port number will be used for every transmission, based on the port number specified here.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Audio Port Number	1024 to 65534	57000	Specify the transmission port number for audio data used for RTSP unicast streaming. Specify an even number in the setting range. Two port numbers (the number specified here and an odd number with 1 added to the specified number) are actually used for audio data communication and control. When performing simultaneous multi-transmissions, a different port number will be used for every transmission, based on the port number specified here.

SRT

This setting item is displayed when [Stream Setting] is set to [SRT-Caller] or [SRT-Listener].
Make settings related to SRT Streaming.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Destination	—	—	When the streaming mode is [SRT-Caller], set the destination URL.
Port Number	1024 to 65534	4201	When the streaming mode is [SRT-Listener], set the port number for listening.
Latency	20 to 8000	120	Set the amount of delay from [20] ms and [8000] ms.
TTL	1 to 255	64	Set the TTL value from [1] to [255].
Encryption	Off/AES128/AES256	Off	Select the encryption method. Select from [Off], [AES128], or [AES256].
Passphrase	—	—	Set the passphrase used for encryption. Press [Clear] to erase the entered passphrase.
ARC	On/Off	On	Select the checkbox to enable the adaptive rate control function. When the adaptive rate control function is enabled, it is possible to reduce the image interruption caused by congestion of the communication line.

NDI|HX

This setting item is displayed when [Streaming Setting] is set to [NDI|HX].
Make settings related to NDI|HX Streaming.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
License	—	Invalid	The installation status of the NDI license key is displayed.
Source Name	—	—	NDI Source Name is displayed.
Group	On/Off	Off	Enable the grouping function of NDI.
Group Name	—	—	This setting item is displayed when the NDI grouping function is enabled. Set the group name.
Discovery Server 1	—	—	Set the NDI Discovery Server 1.
Discovery Server 2	—	—	Set the NDI Discovery Server 2.
Multicast Mode	On/Off	Off	Enable multicast streaming.
Multicast Prefix	239.255.0.0	239.255.0.0	Display when [Multicast Mode] is enabled. Set the prefix used for multicast streaming.
Multicast Netmask	255.255.0.0	239.255.0.0	Display when [Multicast Mode] is enabled. Set the net mask that determines the range of multicast addresses.
Multicast TTL	1 to 255	3	Display when [Multicast Mode] is enabled. Set the TTL value for multicast streaming.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Multi-TCP Mode	On/Off	Off	Enable multi-TCP Mode.
Unicast UDP Mode	On/Off	On	Enable unicast UDP Mode.

Using NDI|HX

To use NDI|HX, you are required to purchase the license key.

Purchasing the license key

You can purchase the license key from the following URL of NewTek.
<https://store.newtek.com/index.php/catalog/product/view/id/300>

Notes

- Download the latest driver of NDI|HX and install it in NewTek products.
- For details on settings and operations for NDI|HX, refer to the instructions of NewTek products.

Services and software provided by other companies

- Separate terms and conditions of use may be applied.
- Provision of services and software updates may be interrupted or terminated without notice.
- Services and software content are subject to change without notice.
- Separate registration and/or payment may be required.

Please note that Sony Corporation is not responsible for any claim, from customers or third parties, arising from any use of services and software provided by other companies.

Video Stream

Make settings related to video codecs for streaming.

Up to 5 users can simultaneously view images from a single camera. However, when multiple users view images, the images may be corrupted depending on the codec setting.

Notes

- When selecting [SRT-Caller], or [SRT-Listener] for [Setting] in the [Stream] tab, some settings (Codec, Size, Frame rate, and Bit rate compression mode) of video stream 1 and video stream 2 return to the default value.
 - The following symptoms may occur depending on combinations of various settings such as the Size, Frame rate, Bit rate, etc. for Image 1, 2, and 3.
 - Image delay increases.
 - A frame skip occurs when playing an image.
 - Audio is interrupted.
 - Camera responses to commands are slow.
 - Camera responses to operation from the remote controller are slow.
 - Display of the monitor screen and configuring camera settings are slow.
- In this case, adjust by lowering the parameter values of the Size, Frame rate, and Bit rate, or by changing other setting parameter values.

- When selecting [SRT-Caller], or [SRT-Listener] for [Setting] in the [Stream] tab, [Codec 1] is fixed to [H.264].

Video Stream 1

Make settings related to video codec 1.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Codec 1	H.264/H.265	H.264	Set the codec for video stream 1.
Size 1	3840×2160/ 1920×1080/ 1280×720/640×360	1920×1080	Select the image size transmitted from the camera. The selectable image size is changed depending on the video output method (video format) which is selected with the SYSTEM SELECT switch on the back of the camera or format setting of video output.
Frame Rate 1	5/10/15/20/30/60	60	Set the frame rate of the image. The selectable frame rate is changed depending on the video output method (video format) which is selected with the SYSTEM SELECT switch on the back of the camera or format setting of video output.
I-Picture Mode 1	Time/Frame	Time	Select the method from [Time] or [Frame] for specifying the insertion interval of H.264/H.265 I-picture. [Time]: Set the I-picture insertion interval by time. [Frame]: Set the I-picture insertion interval by number of frames.
I-Picture Interval 1	1 to 5	1	Set the I-picture insertion interval in seconds.
I-Picture Ratio 1	15 to 300	30	Set the insertion interval of H.264/H.265 I-picture by number of frames.
Profile 1	high/main/baseline	high	Select the profile for H.264 video codec. The video compression efficiency is higher in the order of [high], [main], and [baseline]. Select the suitable profile for your system.
Bit Rate Compression Mode 1	CBR/VBR	VBR	Select [CBR] or [VBR]. Select [CBR] when you want to maintain the bit rate constant and select [VBR] when you want to stabilize the image quality constant. Notes <ul style="list-style-type: none"> • The frame rate or bit rate that is actually transmitted may be different from the setting value depending on image size, scene being shot, and network environment. • When selecting [SRT-Caller], or [SRT-Listener] for [Setting] in the [Stream] tab, [Bit Rate Compression Mode 1] is fixed to [CBR].
Bit Rate 1	512/768/1000/ 2000/3000/4000/ 5000/6000/7000/ 8000/16000/ 24000/32000/ 50000	16000	Set the bit rate per line for the codec 1. When the bit rate is set to a higher value, higher-quality images can be distributed. This can be set only when [Bit Rate Compression Mode 1] is set to [CBR].
Quality 1	1 to 10	6	Set the image quality for the codec 1. This can be set only when [Bit Rate Compression Mode 1] is set to [VBR].

Video Stream 2

Make settings related to video codec 2.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Codec 2	H.264/H.265/Off	Off	Set the codec for video stream 2.
Size 2	3840×2160/ 1920×1080/ 1280×720/640×360	1920×1080	Select the image size transmitted from the camera. The selectable image size is changed depending on the video output method (video format) which is selected with the SYSTEM SELECT switch on the back of the camera or format setting of video output.
Frame Rate 2	5/10/15/20/30	30	Set the frame rate of the image. The selectable frame rate is changed depending on the video output method (video format) which is selected with the SYSTEM SELECT switch on the back of the camera or format setting of video output.
I-Picture Mode 2	Time/Frame	Time	Select the method from [Time] or [Frame] to specify the insertion interval of H.264/H.265 I-picture. [Time]: Set the I-picture insertion interval by time. [Frame]: Set the I-picture insertion interval by number of frames.
I-Picture Interval 2	1 to 5	1	Set the I-picture insertion interval in seconds.
I-Picture Ratio 2	15 to 300	30	Set the insertion interval of H.264/H.265 I-picture by number of frames.
Profile 2	high/main/baseline	high	Select the profile for H.264 video codec. The video compression efficiency is higher in the order of [high], [main], and [baseline]. Select the suitable profile for your system.
Bit Rate Compression Mode 2	CBR/VBR	VBR	Select [CBR] or [VBR]. Select [CBR] when you want to maintain the bit rate constant and select [VBR] when you want to stabilize the image quality constant. Note The frame rate or bit rate that is actually transmitted may be different from the setting value depending on image size, scene being shot, and network environment.
Bit Rate 2	512/768/1000/ 2000/3000/4000/ 5000/6000/7000/ 8000/16000/ 24000/32000/ 50000	8000	Set the bit rate per line for the codec 2. When the bit rate is set to a higher value, higher-quality images can be distributed. This can be set only when [Bit Rate Compression Mode 2] is set to [CBR].
Quality 2	1 to 10	6	Set the image quality for the codec 2. This can be set only when [Bit Rate Compression Mode 2] is set to [VBR].

Video Stream 3

Make settings related to video codec 3.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Codec 3	JPEG	JPEG	Set the codec for video stream 3.
Size 3	1280×720/640×360	1280×720	Select the image size transmitted from the camera.
Frame Rate 3	5/10/15/20/30/60	30	Set the frame rate of the image. The selectable frame rate is changed depending on the video output method (video format) which is selected with the SYSTEM SELECT switch on the back of the camera or format setting of video output.
Quality 3	1 to 10	6	Set the image quality for codec 3.

Audio Stream

Make settings related to audio codecs for streaming.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Setting	On/Off	Off	Enable streaming of audio.
Codec	AAC (128 kbps)/ AAC (256 kbps)	AAC (128 kbps)	Select the audio codec for streaming. The setting item is displayed when [Setting] is enabled. [AAC (128 kbps)]: Select this when you prioritize the data capacity. [AAC (256 kbps)]: Select this when you prioritize the audio quality. This setting will not have effect on the audio signal superimposed on HDMI/SDI OUT.

Maintenance Menu

Initialize

Initializes the camera, saves settings, and upgrades the software version.

Initialize

Performs operations related to the initialization of the camera.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Reboot	—	—	Used when forcibly rebooting the system. When you click [Reboot], the message "This camera will reboot right now. Reload your browser after rebooting." appears. Click [OK] to reboot the camera. It takes several minutes to reboot.
Factory Default	—	—	Resets the camera to the default settings. [Retain current network settings] Select the checkbox to retain the current network and security settings even when the camera is reset to the factory default settings. When you click [Factory Default], the message "This camera will reboot right now. Reload your browser after rebooting." appears. When you click [OK], the network indicator on the camera starts to flash. When the factory default settings are completed, the camera reboots automatically. Do not turn off the camera before the camera reboots. Note The camera can be reset to the factory default settings by pressing the reset switch for 5 seconds or longer.

Export/Import

Performs operations related to the initialization of the camera.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Export setting file	—	—	Used when you export the setting data of the camera in a file. Click [Export], specify the destination folder, and save the setting data of the camera to the computer as a file according to the instructions on the web browser.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Import setting file	—	—	<p>Used when you import the stored setting data of the camera. Click [Import], specify the destination folder, and select the setting file stored on the computer according to the instructions on the web browser. The camera is configured according to the setting data.</p> <p>Notes</p> <ul style="list-style-type: none"> The following items cannot be exported or imported in [Export setting file] or [Import setting file]. <ul style="list-style-type: none"> Network settings User settings Access Limit settings SSL function settings/certificate Referer Check settings Brute Force Attack Protection settings Preset settings Preset items (page 98) NDI HX settings The Video codec setting is not restored if there is an image size or frame rate that cannot have the stored settings applied by changing the SYSTEM SELECT switch or format setting of video output.

Version Up

Performs the camera version up.

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Version Up	—	—	Use this to upgrade the firmware. Click [Choose File] to select the desired firmware file to upgrade. The confirmation dialog is displayed. Follow the online instructions.

System Log

Software performance data of the camera is recorded in the log. It includes useful data for troubleshooting.

Click [Reload] to reload the latest data.

System Log

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Log Level	Critical, Warning & Info / Critical & Warning / Critical	Critical, Warning & Info	Set the level of information to be recorded in the system log.
Log Size	200 to 1024	1024	Set the maximum number of records to be recorded in the system log.
Download as File	—	—	On the screen that appears when pressing the [Download] button, save the system log to your computer.

HTTP Access Log

The access history of the camera is displayed.
Click [Reload] to reload the latest data.

HTTP Access Log

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
Log Level	Critical, Warning & Info / Critical & Warning / Critical	Critical, Warning & Info	Set the level of information to be recorded in the HTTP access log.
Log Size	200 to 1024	1024	Set the maximum number of records to be recorded in the HTTP access log.
Download as File	—	—	On the screen that appears when pressing the [Download] button, save the HTTP access log to your computer.

Service

The access history of the camera is displayed.
Click [Reload] to reload the latest data

Menu item	Detail and setting value	Initial setting value of the factory default setting	Content
I agree to download device information.			Download the device information data to use for the service. Select the checkbox of [I agree to download device information.] and click [OK] for download.
Device Information			Select the checkbox of [I agree to download device information.] and click [OK] to display. Click [Download], specify the destination folder, and save the device information to your computer according to the instructions on the web browser. The data file will be saved in binary format.

EULA

Displays the End User License Agreement.

Software

Displays the software license.

Message List

The following messages and indications may appear on this camera. Perform the following as necessary.

Camera Lamp Display

Lamp status	Description and solution
The POWER lamp (orange) and NETWORK lamp (green) are flashing.	An error has occurred in the camera. Details of the error are displayed in the main menu. Check the details of the error before solving the problem.

Camera Screen Display (OSD Menu)

Message	Description and solution
⚠ FAN STOP!	Turn off the camera as it may malfunction if used in this state. Contact the Sony Service Center or your licensed Sony dealer.
⚠ FAN SPEED LOW!	The fan speed is too low. Turn off the camera and contact the Sony Service Center or your licensed Sony dealer.
⚠ PAN-TILT ERROR!	The movement of the camera has stopped due to an error in the pan-tilt driving unit. Reset the pan/tilt position or turn off and on the camera.
⚠ PAN-TILT FAULT!	Turn off the camera as it may malfunction if used in this state. Contact the Sony Service Center or your licensed Sony dealer.
⚠ MEMORY FAULT!	The memory of the camera has been damaged. Or the camera is running on an older version. Turn off the camera and contact the Sony Service Center or your licensed Sony dealer.

List of error codes for SRT streaming

The error codes displayed on this camera are as follows. If necessary, take the following actions.

Error Codes		Description	Remedy
SRT-Caller	SRT-Listener		
	1001	Unexpected error	The camera may not operate properly. Turn off and on the camera.
	1002	Disconnection of communication due to setting change	The communication has been disconnected because the configuration was changed. Connect to communicate again.
	5001	Unexpected error	The camera may not operate properly. Turn off and on the camera.
	5002	Unexpected error	
	5003	Unexpected error	
	5004	Unexpected error	
5005		Connection failed	Check if the destination setting is correct.
5006		Encryption error	Check if the encryption setting is correct.
	5007	Unexpected error	The camera may not operate properly. Turn off and on the camera.
	5008	Unexpected error	
	5009	Sending failed	Disconnection occurred during communication. Check the network connection.

Troubleshooting

Before sending your camera for service, check the following to troubleshoot the problem. If the problem still persists, consult the Sony Service Center.

Symptom	Cause	Remedy
The power of the camera is not turned on.	The AC adapter is not firmly connected to the DC IN 19.5 V terminal.	Firmly insert the AC adapter all the way.
	The power cord is not firmly connected to the AC adapter or the power supply.	Firmly insert the power cord all the way.
	The connection cable to the PoE++ compliant-power supply device is not firmly connected.	Firmly insert the connection cable all the way.
	A non-PoE++ compliant-power supply device is connected.	Connect a PoE++(IEEE802.3bt Type4 Class8 compliant) power supply device.
The camera does not work even when buttons on the remote commander are pressed.	[IR RECEIVE] on the SYSTEM menu is turned [OFF] or the [IR Remote] checkbox on the Web App menu is cleared.	Set [IR RECEIVE] to [ON] by operating the menu with the remote controller RM-IP500/IP10 (page 41) or enable [IR Remote] from the Web App menu on the web browser (page 67).
	The remote commander's CAMERA SELECT switch number and the camera's IR SELECT switch setting are different.	Select the CAMERA SELECT switch that matches the IR SELECT switch setting (page 12).
The OSD menu is not displayed.	[Menu Overlay (SDI)] or [Menu Overlay (HDMI)] is disabled on the Web App menu or the initial password has not been set.	Enable the setting that corresponds with the video output to display the OSD menu. The camera does not output video from HDMI or SDI OUT until the initial password is set. Access the web browser with the camera IP address and set the initial password.
An image is not displayed on the connected video monitor.	The video connecting cable is not connected properly.	Check the connection between the camera and video monitor.
	Exposure settings on the camera are not appropriate.	Check the exposure settings in the EXPOSURE menu.
The camera cannot be operated with the remote controller RM-IP500/IP10.	The connection method is not configured properly.	Configuration of the connection method (VISCA RS-422 or VISCA over IP) for RM-IP500/IP10 is required. Check whether the connection method for RM-IP500/IP10 corresponds to the connected cable.
	The VISCA RS-422 connection is incorrect.	Check the connection to the VISCA RS-422 terminal and the wiring of the RS-422 cable.
	The VISCA connection does not turn to On.	Confirm that the VISCA connection setting for the CAMERA SETUP switch (page 9) on the rear of the camera turns to On.
	Communication baud rate settings are different.	Set the same settings for the baud rate (9600 bps or 38400 bps) of the remote controller and the CAMERA SETUP switch (page 9) on the back of the camera.
	The VISCA over IP connection is incorrect.	Check the connection to the LAN terminal. Use a cross network cable when connected to the remote controller on a one-to-one basis.
VISCA is not available even when the camera is connected to a computer.	The computer is not correctly connected to the camera.	Check the connection between the camera and computer.
		Make sure that the baud rate (9600 bps or 38400 bps) is correctly set on the CAMERA SETUP switch on the back of the camera (page 9) and in the computer settings.
		Connect the camera to the remote controller RM-IP500/IP10 to check whether the camera is not damaged.
Problems are not resolved although measures were taken.	—	Remove the plug of the power cord from the AC outlet, then reinsert it into the AC outlet after waiting a while.

Preset Items and Image Setting File Items

Items stored in the preset and image setting file are shown in the following lists.

Item stored in the preset

- : Stores settings by preset.
- : Applies the settings to the camera at the next start-up when they are stored in Preset 1. Preset recall does not apply the settings.

Item stored in the image setting file

- : Stored
- : Not stored

Pan/Tilt/Zoom/Focus Settings

Item name on the OSD menu	Item name on the Web App menu	Items other than the OSD/Web App menu	Item stored in the preset	Item stored in the image setting file
-	-	Pan-Tilt position	●	-
PAN TILT SLOW	Slow Pan-Tilt Mode	-	○	-
PAN LIMIT, TILT LIMIT	Range Limit	-	○	-
-	Name (Preset position list)	-	○	-
-	Thumbnail (Preset position list)	-	○	-
PRESET RECALL SPEED	Speed Select	-	○	-
PRESET RECALL COMMON SPEED	Common Speed	-	○	-
-	Speed (Preset position list)	-	●	-
ZOOM MODE	Zoom Mode	-	●	-
-	-	Zoom position	●	-
TELE CONVERT MODE	Tele Convert	-	○	-
FOCUS MODE	-	Focus mode	●	-
-	-	Focus position	●	-
-	-	Auto focus mode	○	-
-	-	Auto focus interval	○	-
-	-	Auto focus sensitivity	●	-
-	Focus Near Limit	-	●	-

Camera Settings

Item name on the OSD menu	Item name on the Web App menu	Items other than the OSD/Web App menu	Item stored in the preset	Item stored in the image setting file
EXPOSURE MODE	Mode (Exposure)	-	●	○
IRIS	Iris	-	●	○
GAIN	Gain	-	●	○
GAIN LIMIT	AGC Limit	-	●	○
GAIN POINT	Gain Point	-	●	○
GAIN POINT LEVEL	Gain Point Level	-	●	○
-	-	High-sensitivity Mode	●	○
SHUTTER SPEED	Shutter Speed	-	●	○
MAX SHUTTER SPEED	Fastest (Shutter speed)	-	●	○

Item name on the OSD menu	Item name on the Web App menu	Items other than the OSD/Web App menu	Item stored in the preset	Item stored in the image setting file
MIN SHUTTER SPEED	Slowest (Shutter speed)	-	●	○
SLOW SHUTTER On/Off	Auto Slow Shutter	-	●	○
EX-COMP On/Off	-	-	●	-
EX-COMP LEVEL	Exposure Compensation	-	●	○
BACKLIGHT	Backlight Compensation	-	●	○
SPOTLIGHT	Spotlight Compensation	-	●	○
AE SPEED	AE Speed	-	●	○
-	-	AE Ref. Low-light Modulation On/Off	●	○
-	-	AE Ref. Low-light Modulation Level	●	○
VISIBILITY ENHANCER On/Off	Visibility Enhancer (On/Off)	-	●	○
VISIBILITY ENHANCER EFFECT	Visibility Enhancer (Effect)	-	●	○
WHITE BALANCE MODE	Mode (White balance)	-	●	○
WHITE BALANCE MODE SPEED	Speed (White balance)	-	●	○
WHITE BALANCE MODE OFFSET	Offset (White balance)	-	●	○
WHITE BALANCE MANUAL R-GAIN	R Gain (White balance)	-	●	○
WHITE BALANCE MANUAL B-GAIN	B Gain (White balance)	-	●	○
-	-	R-Gain of OnePushWB	●	-
-	-	B-Gain of OnePushWB	●	-
DETAIL MODE	Mode (Detail)	-	●	○
DETAIL LEVEL	Level (Detail)	-	●	○
DETAIL BAND WIDTH	Bandwidth (Detail)	-	●	○
DETAIL CRISPENING	Crispening (Detail)	-	●	○
DETAIL HV BALANCE	HV Balance (Detail)	-	●	○
DETAIL BW BALANCE	BW Balance (Detail)	-	●	○
DETAIL LIMIT	Limit (Detail)	-	●	○
HIGHLIGHT DETAIL	Highlight Detail	-	●	○
DETAIL SUPER LOW	Super Low	-	●	○
-	-	Low Illumination Color NR	●	○
-	-	Defog	●	○
FLICKER CANCEL On/Off	Flicker Cancel (On/Off)	-	●	○
HIGH RESOLUTION	High Resolution Mode (On/Off)	-	●	○
IMAGE STABILIZER	Image Stabilizer (On/Off)	-	●	○
NOISE REDUCTION	NR Mode	-	●	○
-	NR (XDNR)	-	●	○
2D NR LEVEL	2D NR Level	-	●	○
3D NR LEVEL	3D NR Level	-	●	○
-	-	Picture Effect	●	-
IR CUT FILTER	Mode (Day/Night ICR)	-	●	-
ICR THRESHOLD	Threshold	-	●	-
IR RECEIVE	IR Remote	-	○	-
TALLY LEVEL	Tally Lamp Brightness	-	○	-
HDMI COLOR SPACE	Color Space	-	○	-

Specifications

System

Video signal 3840 × 2160/29.97p *1
1920 × 1080/59.94p
1920 × 1080/59.94i
1920 × 1080/29.97p
1280 × 720/59.94p
3840 × 2160/25p *1
1920 × 1080/50p
1920 × 1080/50i
1920 × 1080/25p
1280 × 720/50p
3840 × 2160/23.98p *1
1920 × 1080/23.98p
*1 SDI output is not supported.
Details of each model (page 104)

Synchronization

Internal synchronization

Image device 1/2.5-type, CMOS image sensor
Effective pixel number: Approx.
8.5 Megapixels

Camera

Lens Optical, 20 ×
f = 4.4 mm to 88.0 mm,
F2.0 to F3.8
f = 26.8 mm to 536.0 mm (35 mm
camera conversion) (SRG-A40)
Optical, 12 x
f = 4.4 mm to 52.8 mm, F2.0 to F3.7
f = 26.8 mm to 322.8 mm (35 mm
camera conversion) (SRG-A12)

Minimum object distance
80 mm (WIDE), 800 mm (Tele)
(SRG-A40)
80 mm (WIDE), 400 mm (Tele)
(SRG-A12)

Minimum illumination
1.6 lux 4K/HD output, 50IRE, F2.0,
1/30s, High-sensitivity Mode:
OFF

Max.Gain (Wide end)

Shutter speed
1/10000s to 1/1s

Pan/Tilt function

Horizontal ±170 degrees
Maximum speed: 101 degrees/
second
Minimum speed: 0.5 degrees/
second
Maximum speed (when the
preset is recalled): 300
degrees/second
Minimum speed (when the
preset is recalled): 1.1 degrees/
second
Vertical +90 degrees, -20 degrees
Maximum speed: 91 degrees/
second
Minimum speed: 0.5 degrees/
second
Maximum speed (when the
preset is recalled): 126 degrees/
second
Minimum speed (when the
preset is recalled): 1.1 degrees/
second

Output terminals

HDMI Terminal: HDMI connector (Type
A) × 1
Color space: YCbCr, 4:2:2 8bit
RGB, 4:4:4 8bit
SDI OUT Terminal: BNC connector × 1
Standards: 3G-SDI

Input and Output terminals

VISCA RS-422 Terminal: RJ45 × 2
Standards: VISCA
LAN terminal Terminal: RJ45
Standards: PoE++ (IEEE802.3bt
Type4 Class8 compliant)

Input terminals

MIC Terminal: Mini-phone ø 3.5 Stereo
(×1) (Plug in Power supported)
Power terminal IEC60130-10 (JEITA standard RC-
5320A) TYPE 5

General

Input voltage DC 19.5 V (AC adapter 100 to 240 V,
50/60 Hz), PoE++ (IEEE802.3bt
Type4 Class8 compatible)
Power consumption
For DC 19.5 V: 80 W
For PoE++ (IEEE802.3bt Type4
Class8 compliant): 71.3 W

Operating temperature	0° C to 40° C (32° F to 104° F)
Storage temperature	-20°C to +60°C (-4°F to +140°F)
External dimensions (Dimensions page 102)	Approx. 156.7 × 184.0 × 200.0 mm (6 1/4 × 7 1/4 × 7 7/8 inches) (width/height/depth) (without protrusions)
Mass	Approx. 2.0 kg (4 lb 6.5 oz)
Installation angle	Less than ±15 degrees to the horizontal surface

Supplied Accessories

Safety Regulations (1)
 AC adapter (1)
 Remote commander (1)
 Ceiling bracket (A) (1)
 Ceiling bracket (B) (1)
 Wire rope (1)
 Mounting screws (⊕M3×8) (9)
 Mounting screws (⊕M2.6×6 black) (1)
 HDMI cable fixing plate (1)
 Cable clasper (1)
 URL label (1)

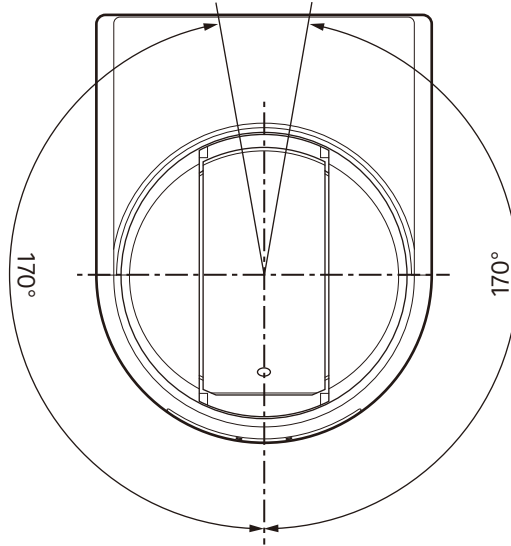
Optional accessories

Remote controller (RM-IP500/RM-IP10)

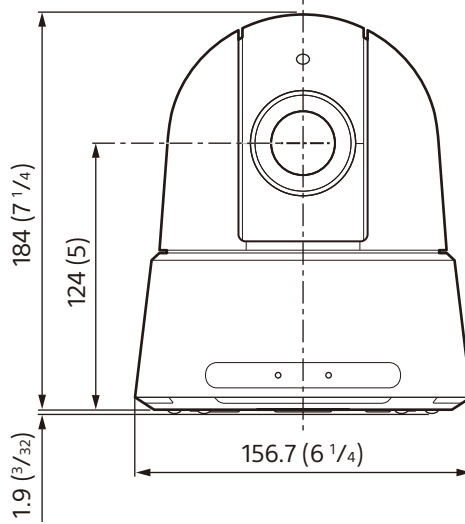
Design and specifications are subject to change without notice.

Dimensions

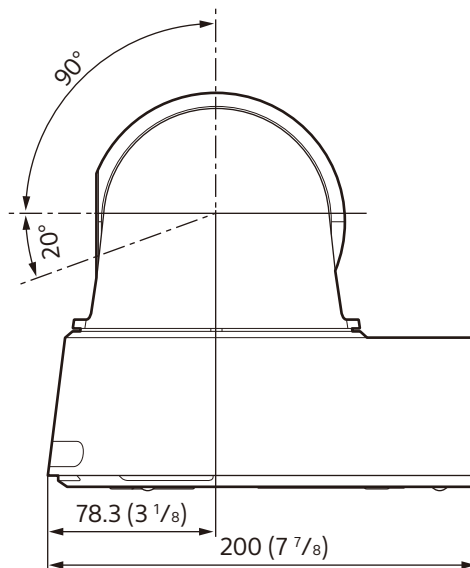
Top



Front

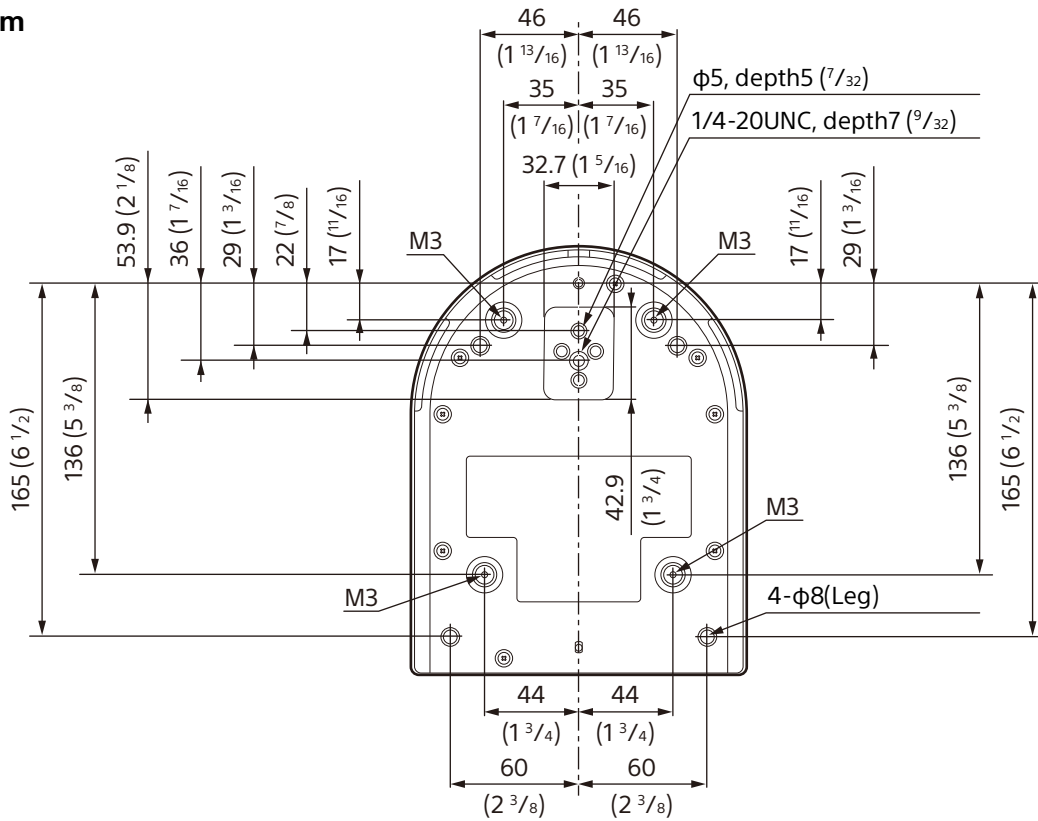


Side



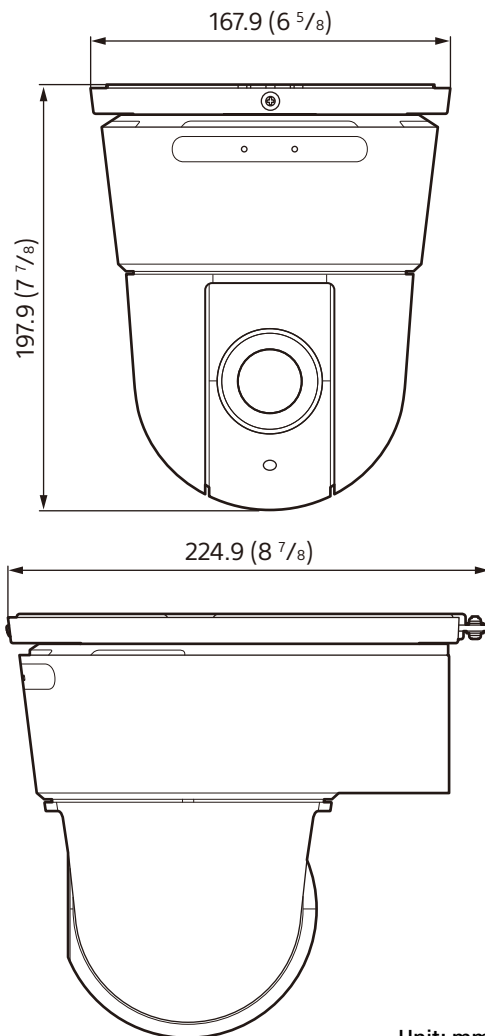
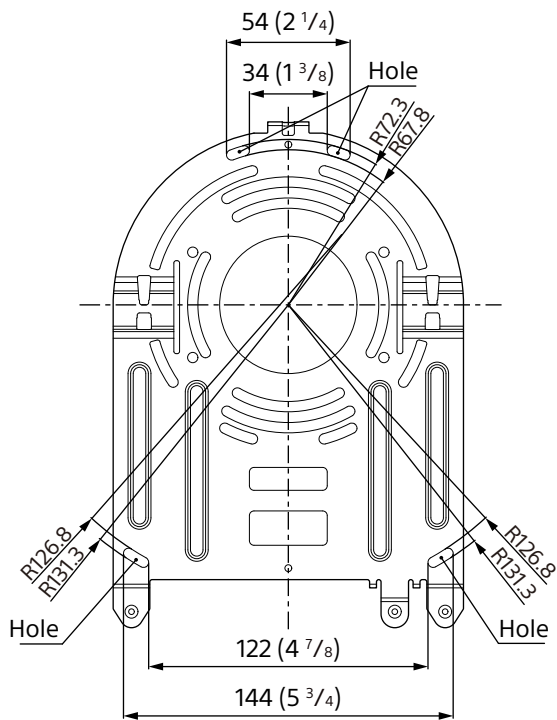
Unit: mm (inches)

Bottom



Ceiling bracket (B)

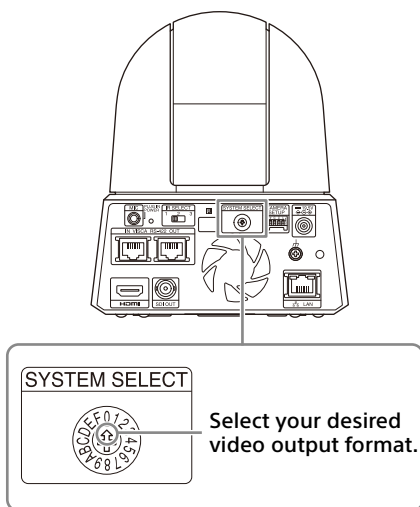
With the ceiling bracket installed



Unit: mm (inches)

SYSTEM SELECT switch settings

The video output format for the HDMI/SDI OUT terminal can be set with this switch.



No.	Video output format/Frame rate
0	3840x2160/29.97p
1	1920x1080/59.94p
2	1920x1080/59.94i
3	1920x1080/29.97p
4	1280x720/59.94p
5	RESERVE
6	REMOTE
7	HDMI : 640x480/59.94p SDI OUT : 1280x720/59.94p
8	3840x2160/25p
9	1920x1080/50p
A	1920x1080/50i
B	1920x1080/25p
C	1280x720/50p
D	RESERVE
E	3840x2160/23.98p
F	1920x1080/23.98p

Notes

- Be sure to set the switch before you turn on the camera.
Turn on the power after you set the switch.
- Be sure to use a Phillips-head screwdriver when changing the switch position. If you use a tool other than the designated screwdriver, the crossed groove may be damaged.

Pin array of the VISCA RS-422 terminal and how to use it

Pin array of VISCA RS-422 terminal



IN

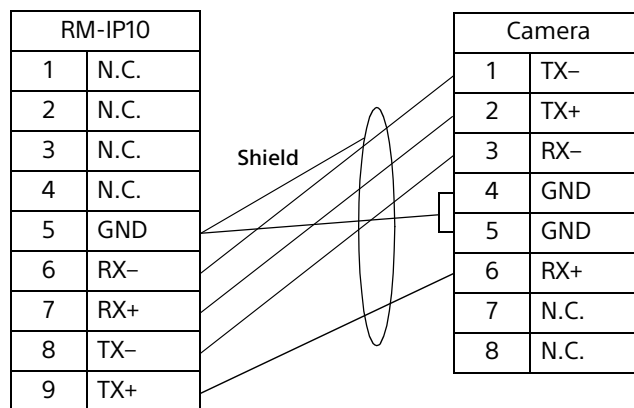
Pin No.	Function
1	TX-
2	TX+
3	RX-
4	GND
5	GND
6	RX+
7	N.C.
8	N.C.



OUT

Pin No.	Function
1	RX-
2	RX+
3	TX-
4	GND
5	GND
6	TX+
7	N.C.
8	N.C.

Connection diagram with remote controller RM-IP10



Notes

- Connect the GNDs of both devices together to stabilize the voltage level of the signal.
- When preparing cables, use network cables of category 5e or more.

