



Instructions for Use

CuratOR[®] SC430-PTR

4K Surgical Field Camera System









Important

Please read this “Instructions for Use” carefully to familiarize yourself with safe and effective usage.
Please retain this manual for future reference.

-
- For the latest product information including the “Instructions for Use”, refer to our web site :
www.eizo-or.com
-

SAFETY SYMBOLS

This manual and this product use the safety symbols below. They denote critical information. Please read them carefully.

 <p>WARNING Failure to abide by the information in a WARNING may result in serious injury and can be life-threatening.</p>	 <p>CAUTION Failure to abide by the information in a CAUTION may result in moderate injury and/or property or product damage.</p>
	<p>Indicates a warning or caution. For example,  indicates an “electrical shock” hazard.</p>
	<p>Indicates a prohibited action. For example,  means “Do not disassemble”.</p>
	<p>Indicates a mandatory action. For example,  means “Ground the unit”.</p>

This product has been adjusted specifically for use in the region to which it was originally shipped. If operated outside this region, the product may not perform as stated in the specifications.

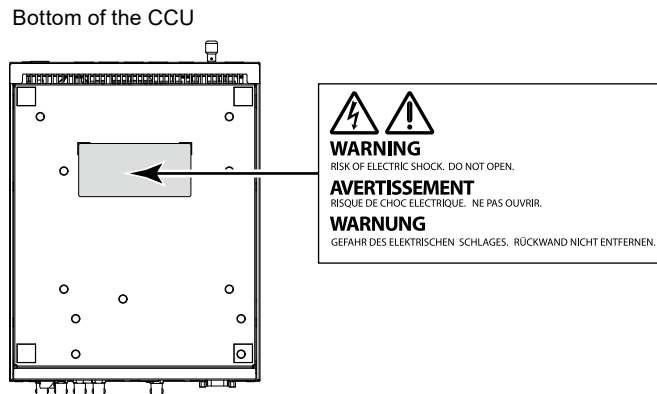
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PRECAUTIONS

IMPORTANT

- This product has been adjusted specifically for use in the region to which it was originally shipped. If the product is used outside the region, it may not operate as specified in the specifications.
- To ensure personal safety and proper maintenance, please read carefully this section and the caution statements on the product.

Location of the Caution Statements



Symbols on the unit

Symbol	This symbol indicates	
	Power switch:	Touch to turn the product's power on or off.
	Alternating current	
	Direct current	
	Alerting to electrical hazard	
	CAUTION:	Refer to "SAFETY SYMBOLS" (page 2).
	WEEE marking:	Product must be disposed of separately; materials may be recycled.
	CE marking	

WARNING

If the unit begins to emit smoke, smells like something is burning, or makes strange noises, disconnect all power connections immediately and contact your EIZO representative for advice.
Attempting to use a malfunctioning unit may result in fire, electric shock, or equipment damage.

Do not disassemble or modify the unit.

Opening the cabinet or modifying the unit may result in fire, electric shock, or burns.



Refer all servicing to qualified service personnel.

Do not attempt to service this product yourself as opening or removing covers may result in fire, electric shock, or equipment damage.

Keep small objects or liquids away from the unit.

Small objects accidentally falling through the ventilation slots into the cabinet or spillage into the cabinet may result in fire, electric shock, or equipment damage. If an object or liquid falls/spills into the cabinet, unplug the unit immediately. Have the unit checked by a qualified service engineer before using it again.



Properly install the product at a durable and stable place.

Install the product at a place that is strong enough to withstand the weight in accordance with the Instructions for Use. If the unit is installed incorrectly, it may drop or fall over, resulting in personal injury or equipment damage. If the unit falls, disconnect the power immediately and ask your local EIZO representative for advice. Do not continue using a damaged unit. Using a damaged unit may result in fire or electric shock.

Use the unit in an appropriate location.

Otherwise, fire, electric shock, or equipment damage may result.

- Do not place outdoors.
- Do not place in any form of transportation (ships, aircraft, trains, automobiles, etc.).
- Do not place in dusty or humid environments.
- Do not place in locations where water may be splashed on the screen (bathrooms, kitchens, etc.)
- Do not place in locations where smoke or steam come in direct contact with the screen.
- Do not place near heat generating devices or humidifiers.
- Do not place in locations where the product is subject to direct sunlight.
- Do not place in environments with flammable gas.
- Do not place in environments with corrosive gases (such as sulfur dioxide, hydrogen sulfide, nitrogen dioxide, chlorine, ammonia, ozone, etc.)
- Do not place in environments with dust, components that accelerate corrosion in the atmosphere (such as sodium chloride and sulfur), conductive metals, etc.



To avoid danger of suffocation, keep the plastic packing bags away from babies and children.

Use the enclosed power cord and connect to the standard power outlet in your country.

Be sure to use within the rated voltage of the power cord. Otherwise, fire or electric shock may result.

Power supply: 100-240 Vac 50/60 Hz

Use the enclosed AC adapter.

The enclosed AC adapter (AHM100PS24) is for use with this product only. Do not use the AC adapter with other equipment. Do not use an AC adapter designed for other devices with this product.

Connecting to power sources that do not match the power ratings of the AC adapter may result in fire or electric shock.

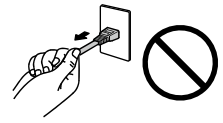
WARNING

To disconnect the power cord or adapter power cable, grasp the plug firmly and pull.

Tugging on the cord or cable may damage it and result in fire or electric shock.



OK



The equipment must be connected to a grounded main outlet.

Failure to do so may result in fire or electric shock.



Use the correct voltage.

- The unit is designed for use with a specific voltage only. Connection to another voltage than that specified in this “Instructions for Use” may cause fire, electric shock, or equipment damage.
Power supply: 100-240 Vac 50/60 Hz
- Do not overload your power circuit, as this may result in fire or electric shock.

Handle the power cord and AC adapter with care.

Handle the power cord and AC adapter with care.

Do not place heavy objects on, pull or tie the power cord or the AC adapter. Using a damaged cord or AC adapter may result in fire or electric shock.



The operator should not touch the patient while touching the product.

This product has not been designed to be touched by patients.



Never touch the plug, AC adapter or power cord during a thunderstorm.

Touching them may result in electric shock.



Handle the batteries for the remote control with care.

Not doing so may result in battery explosion, liquid leakage, or burns.

- Do not disassemble, heat, short-circuit, or immerse the provided batteries in water.
- Install/change batteries in a correct way.
- When replacing batteries, use ones of the same type and model.
- When replacing batteries, replace all of them at the same time with new batteries of the same brand and type.
- Insert batteries with correct direction of the plus (+) and minus (-) sides.
- Do not use the battery with coating damaged.
- In case of swallowing a battery, seek medical attention immediately.
- Remove used-up batteries promptly from the remote controller.
- Dispose of your battery in a designated disposal area.

CAUTION

Check the operational state before use.

Begin use after ensuring that there are no problems with the displayed image.

Securely fix cables / cords that have a fixing feature.

If the cables and cords are not secured in place, they may become disconnected, leading to an interruption of the operation.

Handle with care when carrying the unit.

Disconnect the power cord and cables when moving the unit. Moving the unit with the power cord or cables attached is dangerous and may result in injury.

Do not block the ventilation slots on the cabinet.

- Do not place any objects on the ventilation slots.
- Do not install the unit in a place with poor ventilation or inadequate space.
- Do not use the unit laid down or upside down.

Blocking the ventilation slots prevents proper airflow and may result in fire, electric shock, or equipment damage. Metal parts will also become hot, leading to a risk of burn injury.



Do not touch the plug or AC adapter with wet hands.

Doing so may result in electrical shock.



Use an easily accessible power outlet.

This is to facilitate disconnecting the power in case of a problem.

The AC adapter becomes hot during use.

- Do not cover or place anything on top of the AC adapter. Do not place the AC adapter on top of things that trap heat such as carpets, blankets, etc. Keep the AC adapter away from direct sunlight and heat sources. Failure to do so may result in fire.
- Before moving the product, be sure to turn off the power switch, disconnect the power plug from the power outlet, and wait until it has cooled completely.



Do not suspend the AC adapter in midair.

Using the adapter while it is hanging suspended may result in fire or electrical shock.



Do not place the AC adapter in a vertical orientation.

Otherwise, dust or water may enter the adapter and may result in fire or electrical shock. See page 25 for details.



Do not apply impact to the product or drop it from a height.

Using the adapter after it has been subjected to impact may result in fire or electrical shock.



Regularly wipe dust off from the power plug and the vent area.

Dust, water, or oil on the plug may result in fire.

Unplug the unit before cleaning it.

Cleaning the unit while it is plugged into a power outlet may result in electric shock.

If you plan to leave the unit unused for an extended period of time, disconnect the power plug from the wall socket after turning off the power switch for safety and power conservation.

About This Product

Intended Use

This product is intended to be used for capturing the operative field.

Attention

- This product may not be covered by warranty for uses other than those described in this manual.
- The specifications stipulated in this manual are only applicable when the enclosed power cord is used.
- Only use optional products manufactured or specified by us with this product.

Precautions for Use

- Condensation may form on the surface, lens, ND filter, or the interior parts of this product when the product kept at a cold temperature is brought into a room temperature, when the room temperature suddenly rises, or when the product is moved to a room warmer than where it was placed. In that case, do not turn the product on. Instead wait until the dew condensation disappears, otherwise it may cause some damage to the product.
- The following phenomena observed on the capture screen are not defects. The phenomena are unique to the CMOS imaging elements.
 - White spots
CMOS imaging elements are known to generate small white spots on the screen in rare instances due to cosmic rays, etc. This occurs due to the characteristics of CMOS. It is not a malfunction of the product. Note that such white spots are likely to appear under the following conditions:
 - Usages in a high-temperature environment
 - Usages with increased gain
 - Usages with slower shutter speed
 - Aliasing distortion
When capturing subtle patterns or lines, the patterns or colors may appear differently from the original objects.

Cautions for Network Use

The following risks apply when connecting to a network.

- Unauthorized operation of this product by a malicious third party.
- Interference or shut-down of this product by a malicious third party.

The user is responsible for implementing adequate network security measures, including the measures described below, in order to prevent the aforementioned described risk.

- Use this product with a safety-ensured network by using a firewall or other network security system.
- Check for communication problems in advance.

Cleaning

Periodic cleaning is recommended to keep the product looking new and to prolong its operation lifetime. Gently wipe off any dirt attached to the product with a soft piece of cloth moistened with a small amount of water or one of the chemical agents listed below.

Chemicals that may be used for cleaning

Material name	Product name
Ethanol	Ethanol
Isopropyl alcohol	Isopropyl alcohol
Chlorhexidine	Hibitane
Sodium hypochlorite	Purelox
Benzalkonium chloride	Welpas
Alkyldiaminoethylglycine	Tego 51
Glutaral	Sterihyde
Glutaral	Cidex Plus28
Ammonia	Ammonia water
Hydrogen peroxide	Hydrogen peroxide solution
Alkyldiaminoethylglycine hydrochloride	Satenidin solution
Benzalkonium chloride	Zalkonin solution
Benzethonium chloride	Bezeton solution

Attention

- Do not use chemicals on a frequent basis. Chemical agents such as alcohol and antiseptic solution may cause gloss variation, tarnishing, and fading of the product.
- Never use paint thinner, benzene, wax, or polishing cleaner, as they will damage the surface of the product.
- Do not let the chemical agents come into direct contact with the product.

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Chapter 1 Introduction

1-1. Features

● Camera Performance

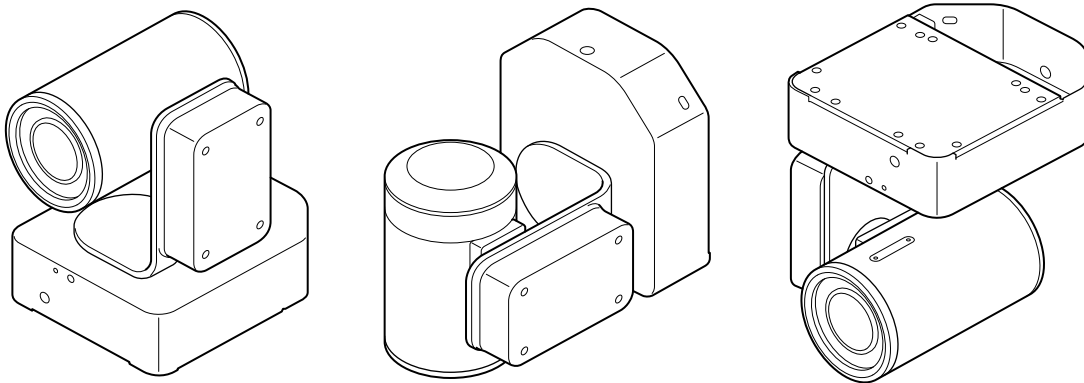
- 4K resolution 60P
4K images can be captured in 60 frames per second
- Optical 30x zoom

● Structure (Camera Mount)

- Intelligent PTR (PAN/TILT/ROLL)
Integrated camera mount allows for simple control Improved movability

● Installation

- The camera can be installed sideways or upside down.



- To supply power and transmit video signals, all you need is a single cable to connect the Camera Control Unit (CCU) with the camera. Easy to install and transport.

● Operation

- Operation on the CCU Control Panel
- IR remote controller included
- Communication Control (RS-232C/LAN)

● Output Interface

- 4K UHD supported
 - HDMI (YUV420)
 - Quad Link 3G-SDI (Square Division (SQD) Signal or 2-Sample Interleave Division (2SI) Signal, YUV422, Level B not supported)
- 2K FHD supported
 - HDMI (YUV422)
 - 3G-SDI Level A (Level B not supported)
- Analog audio output

● Other Functions

- BT.2020 Emulation Mode (4K UHD SDI)
- Auto level control
- Noise Reduction
- Images can be flipped horizontally and vertically Ceiling-suspended installation supported
- Microphone included

1-2. Package Contents

Check that all of the following items are included in the package.

Note

- It is recommended that the box and packing materials be stored so that they can be used to move or transport the product.

Attention

- Remove the batteries from the remote controller if it will not be used for a long time.

- | | |
|--------------------------------------|------------------------------|
| • CCU | • AAA battery x 2 |
| • Camera ^{*1} | • Rubber feet x 4 |
| • Cover ^{*2} | • ND filter |
| • Close-up lens | • Filter cover ^{*3} |
| • AC Adapter (AHM100PS24) | • Instructions for Use |
| • Power cord | • Quick Reference Guide |
| • Camera cable (25 m) | • Thread-locking fluid |
| • IR remote controller ^{*4} | |

*1 A protection cover is attached to the lens at the shipment from the factory. Remove the cover before use.

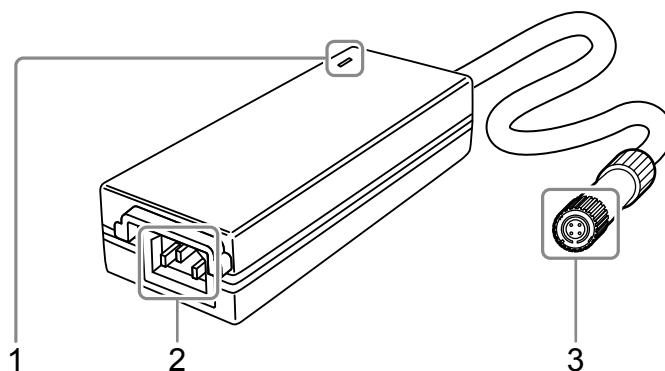
*2 Cover for the rear side of the camera.

*3 If you will be using an ND filter and/or a close-up lens, be sure to attach the filter cover to prevent them from falling off. (For more information, see “Attaching an ND Filter or a Close-up Lens (Optional)” (page 18).)

*4 The remote control holder is sold separately. Should you use it, use the double-sided tape or pan head tapping screws included to attach the holder anywhere you like.

1-3. Controls and Functions

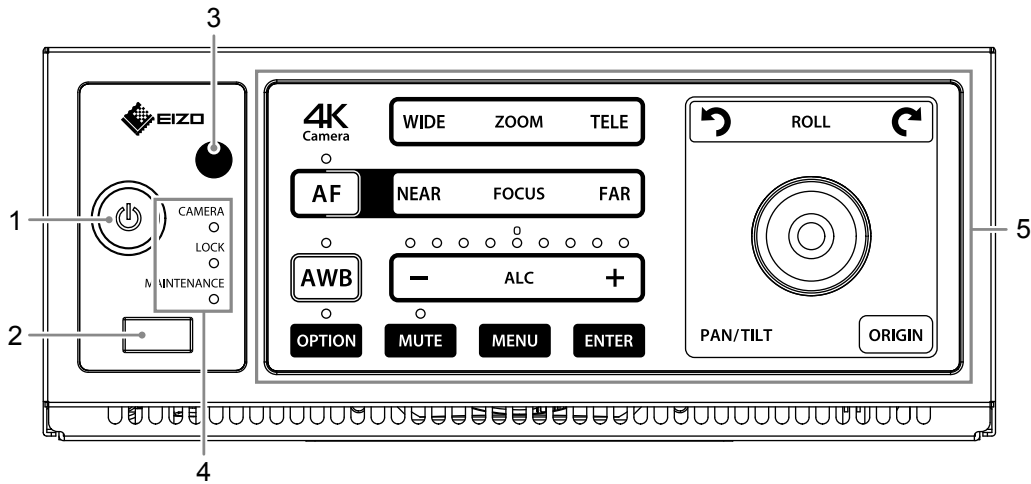
● AC Adapter



1. Main power indicator	Depending on the operation status of the main power supply, the indicator of the AC adapter turns on or off. Lit up: Power on, Not lit up: Power off
2. AC IN terminal	Connects the power cord.
3. DC OUT terminal	Connects to the DC IN terminal on the CCU.

● CCU

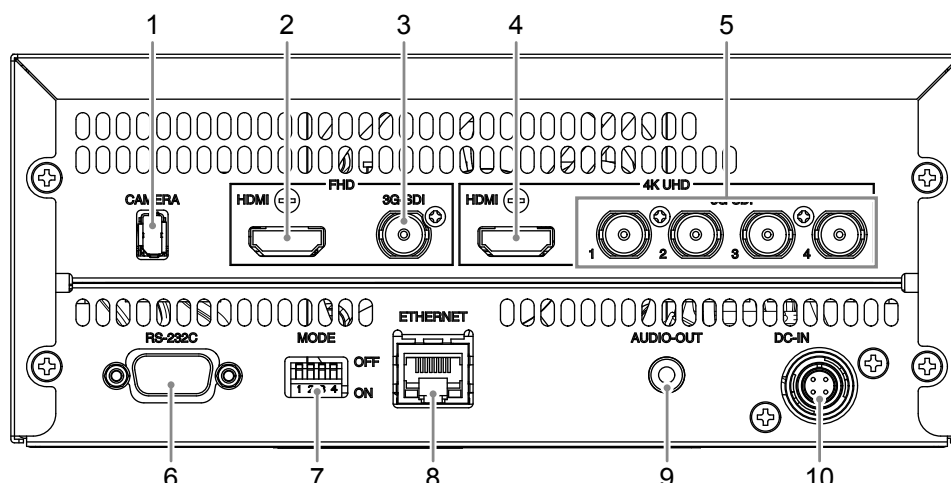
Front



1. Power switch	Turns the power on and off. To turn the power off, press and hold the button for approx. one second.						
2. USB terminal^{*1}	Connects a USB memory when updating the software.						
3. IR sensor (light receiving section of the remote controller)	It is the light receiving section of the remote controller. Do not block the light receiving section.						
4. LED	Each LED indicator lights up according to the status of this product. <table border="1" data-bbox="730 1088 1391 1182"> <tr> <td>CAMERA</td> <td>The camera is ready to use.</td> </tr> <tr> <td>LOCK</td> <td>The camera operation is locked.</td> </tr> <tr> <td>MAINTENANCE</td> <td>A USB memory is connected.</td> </tr> </table> See “Chapter 7 Troubleshooting” (page 45) for details.	CAMERA	The camera is ready to use.	LOCK	The camera operation is locked.	MAINTENANCE	A USB memory is connected.
CAMERA	The camera is ready to use.						
LOCK	The camera operation is locked.						
MAINTENANCE	A USB memory is connected.						
5. Control Panel	Used for controlling the camera and performing menu actions. See “3-1. Camera Control” (page 29) for details.						

*1 Remove the cover before use.

Rear



1. Camera connection terminal	Connect the CCU and camera using the provided camera cable.																				
2. HDMI output terminal (FHD)^{*1}	Connects a monitor equipped with HDMI input. Full HD images and audio are output. ^{*3}																				
3. SDI output terminal (BNC) (FHD)^{*1}	Connects a monitor equipped with SDI input. Full HD images and audio are output. ^{*3, *4}																				
4. HDMI output terminal (4K UHD)^{*1}	Connects a monitor equipped with HDMI input. 4K UHD images and audio are output. ^{*3}																				
5. SDI output terminal (BNC)(4K UHD)^{*2}	Connects a monitor equipped with SDI input. 4K UHD images and audio are output. ^{*3, *5}																				
6. RS-232C terminal	Connect a computer to the CCU with an RS-232C cable (D-Sub 9 pin) to control the camera externally.																				
7. MODE switch	<p>DIP switches used for switching the settings are located.</p> <table border="1"> <thead> <tr> <th>No.</th> <th>ON / OFF</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td rowspan="2">1</td> <td>ON</td> <td rowspan="2">Set the switch to OFF.</td> </tr> <tr> <td>OFF</td> </tr> <tr> <td rowspan="2">2</td> <td>ON</td> <td rowspan="2">Set the switch to OFF.</td> </tr> <tr> <td>OFF</td> </tr> <tr> <td rowspan="2">3</td> <td>ON</td> <td rowspan="2">Set the switch to OFF.</td> </tr> <tr> <td>OFF</td> </tr> <tr> <td rowspan="2">4</td> <td>ON</td> <td>PAL(50 Hz) mode</td> </tr> <tr> <td>OFF</td> <td>NTSC(60 Hz) mode</td> </tr> </tbody> </table> <p>[*] If the settings are changed, be sure to cycle the power supply. The power is turned off for all the components in the factory default state.</p>	No.	ON / OFF	Description	1	ON	Set the switch to OFF.	OFF	2	ON	Set the switch to OFF.	OFF	3	ON	Set the switch to OFF.	OFF	4	ON	PAL(50 Hz) mode	OFF	NTSC(60 Hz) mode
No.	ON / OFF	Description																			
1	ON	Set the switch to OFF.																			
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	OFF																				
3	ON	Set the switch to OFF.																			
	OFF																				
4	ON	PAL(50 Hz) mode																			
	OFF	NTSC(60 Hz) mode																			
8. Ethernet connection terminal	Connect a LAN cable to control the camera externally. ^{*6}																				
9. Audio output terminal	Connects an audio device. Analog audio is output.																				
10. DC IN terminal	Connect the DC OUT terminal of the provided AC adapter.																				

^{*1} Image and audio signals are simultaneously output from respective HDMI and SDI terminals (4 types total) for Full HD and 4K UHD images.

^{*2} Audio is output from Channel 1.

^{*3} Audio output is disabled in the default settings. Use "Audio" on the menu screen and enable audio output from each port.

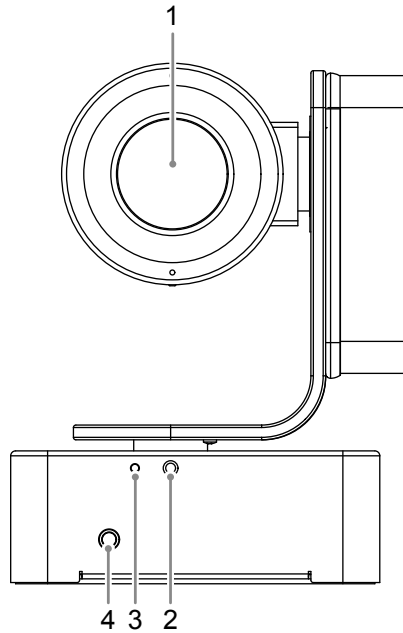
^{*4} 3G/HD-SDI supported.

^{*5} Quad Link 3G-SDI supported.

^{*6} 100BASE-TX supported. Use cables in CAT 5 or higher.

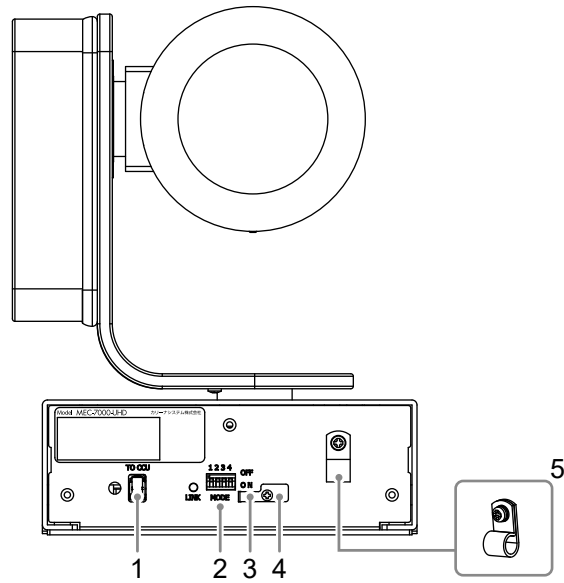
● Camera

Front



1. Lens unit	It is a zoom lens. The provided ND filter and close-up lens can be attached here.								
2. IR sensor (light receiving section of the remote controller)	It is the light receiving section of the remote controller. Do not block the light receiving section.								
3. LED	<p>The LED indicator lights up according to the camera status.</p> <table border="1" data-bbox="730 1160 1401 1352"> <tr> <td>Flashing in green</td> <td>Initializing</td> </tr> <tr> <td>Lit in green</td> <td>The camera is running.</td> </tr> <tr> <td>Lit in orange</td> <td>PAN/TILT/ROLL is running.</td> </tr> <tr> <td>Green and orange lights are flashing alternately</td> <td>PAN/TILT/ROLL is restored to the origin.</td> </tr> </table> <p>See “Chapter 7 Troubleshooting” (page 45) for details.</p>	Flashing in green	Initializing	Lit in green	The camera is running.	Lit in orange	PAN/TILT/ROLL is running.	Green and orange lights are flashing alternately	PAN/TILT/ROLL is restored to the origin.
Flashing in green	Initializing								
Lit in green	The camera is running.								
Lit in orange	PAN/TILT/ROLL is running.								
Green and orange lights are flashing alternately	PAN/TILT/ROLL is restored to the origin.								
4. Microphone	It is a microphone used for recoding voice.								

Rear



1. CCU connection terminal	Connects the camera to the CCU with the provided cable.
2. MODE switch	DIP switches used for switching the settings are located. The power is turned off for all the components in the factory default state. Keep this switch turned OFF.
3. USB terminal	Used for maintenance
4. 3.5 mm mini-jack	Used for maintenance
5. Cable clamp	This locks the camera cable in place.

Chapter 2 Setup

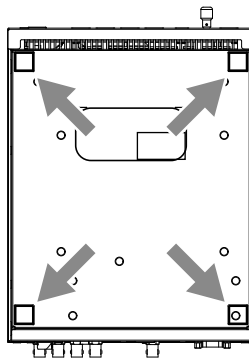
2-1. Before Installing the CCU

● Installation Requirements

- The product must be installed at a stable place that is strong enough to withstand the weight.
- The product must be installed at an appropriate location. Be sure to turn the power off and observe the safety precautions when installing.
- Do not place the product in areas described below.
 - Hot or cold areas
The temperature range in the operating environment is from 0°C to 40°C/ 0°C to 35°C for Camera.
 - Highly humid areas
The humidity range in the operating environment is from 20% to 85% R.H. (no condensation)
 - Near the equipment emitting strong magnetic waves such as transformers and motors
 - Near the equipment emitting radio waves such as walkie-talkies and mobile phones
 - Near a radio or TV station emitting strong radio waves
 - Areas affected by the light reflected from a window or a fluorescent lamp
 - Under unstable lighting (where flickering occurs)
 - Near laser light
 - Near high-voltage cables or rail tracks
 - Dusty or sandy areas
 - Oscillating areas
 - Areas where water droplets are likely to be formed
 - Steamy or oily areas
 - Special environments such as a flammable atmosphere
 - Areas where radiation, X-ray, chloride pollution, or corrosive gas is present
 - Areas including pools and hot springs where chemical agent is used
- Install it horizontally. Do not install it vertically.

● Attaching the Rubber Feet (Optional)

1. When installing the CCU directly on a cart, attach the provided rubber feet (4 pcs) on the bottom.



2-2. Preparing the Camera

● Attaching an ND Filter or a Close-up Lens (Optional)

SC430-PTR comes with an ND filter and a close-up lens.

Using the ND filter is recommended.

- ND filter

The filter reduces the light volume to 1/4 (two stages down).

It is effective under a surgical light or when your operating environment is too bright.

- Close-up lens

The minimum object distance for the camera is 1.5 m. By attaching the close-up lens, the minimum object distance becomes 1.0 m.

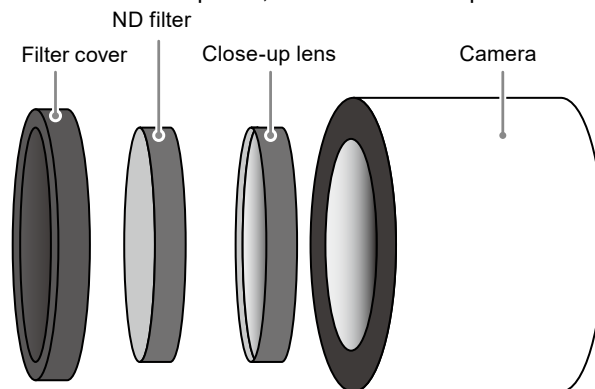
If the focal length is shorter than 1.5 m, attaching the close-up lens is recommended.

Attention

- With the close-up lens attached, it is not possible to set the focal point farther than 2m.
-

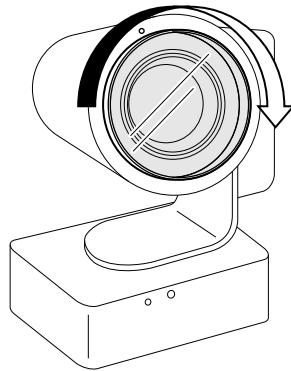
Attention

- **Be sure to attach the filter cover provided** when installing the ND filter and/or close-up lens to prevent them from falling off.
- To attach both the ND filter and the close-up lens, attach the close-up lens first.



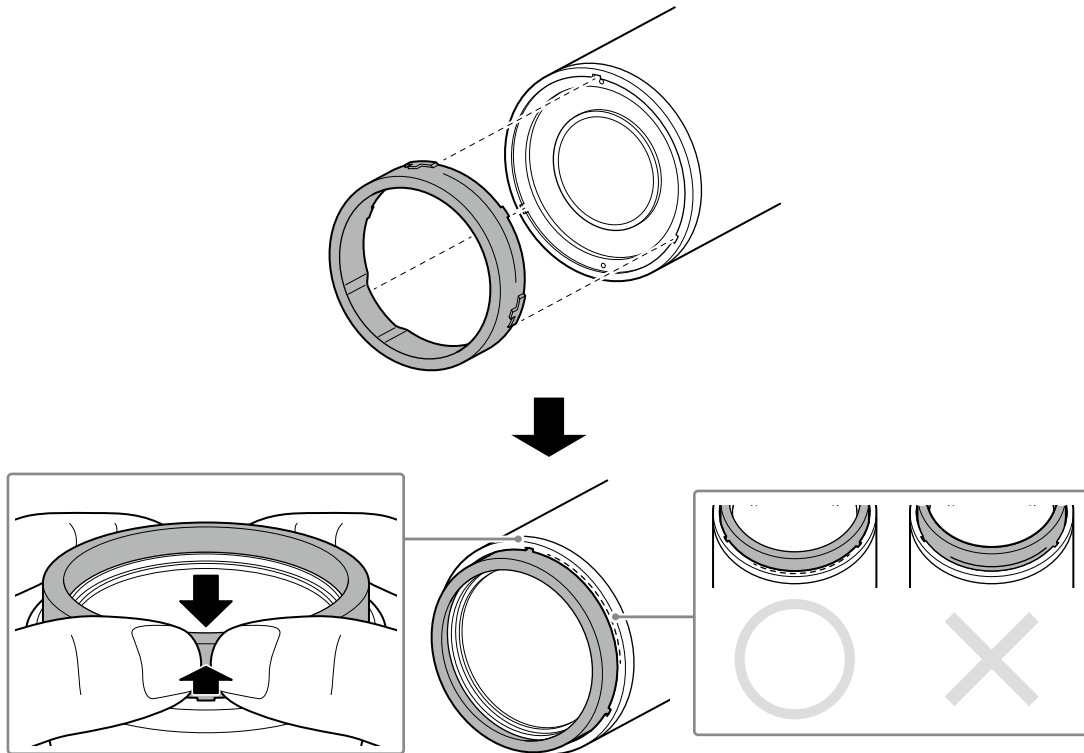
- Once the setup is complete, make sure that the light volume is appropriate by viewing actual images.
-

1. Secure the ND filter and/or close-up lens by rotating them to the right until they cannot be turned further.



2. Attach the filter cover.

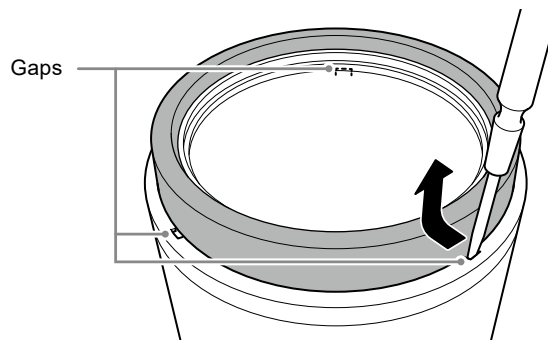
Push the filter cover down firmly over the ND filter and/or close-up lens. (The cover has been designed to be rigid to keep them in place.)



Push the filter cover down until the line at its side is not visible.

Note

- To remove the filter cover, insert a small flathead screwdriver into the three gaps to pry the cover off. Do this one at a time.

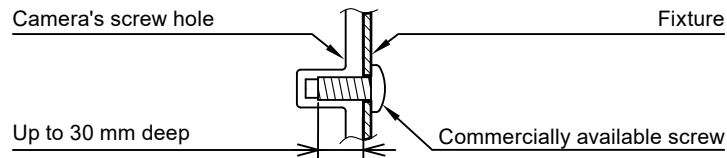


● Attaching the Camera to a Fixture (Arm/Stand)

The camera should be installed using an arm or stand.

Attention

- When installing, do so by carefully following the information in the User Manual about the arm or stand.
- Check that the fixture meets the following standards.
 - Clearance between the screw holes: 100 mm x 100 mm
 - Max. weight allowed: Strong enough to support the total weight including the camera and accessories such as cables
 - The screw length must meet the following specification.



- Please follow the specifications for the screw tightening torque. If the tightening is not performed correctly, the attached part may be damaged, which may result in injury or equipment damage.

Screw tightening torque	1.0 N·m to 1.4 N·m
Required tools	Phillips screwdriver (No. 2)

- Connect the cables after attaching an arm or stand.
- The camera, arm, and stand are heavy. Dropping them may result in injury or equipment damage.
- Periodically check the tightness of the screws. If not sufficiently tight, the camera may detach from the arm, which may result in injury or equipment damage.

1. Fasten the attachment screws at the four screw holes on the bottom of the camera to secure the attachment fixture in place.

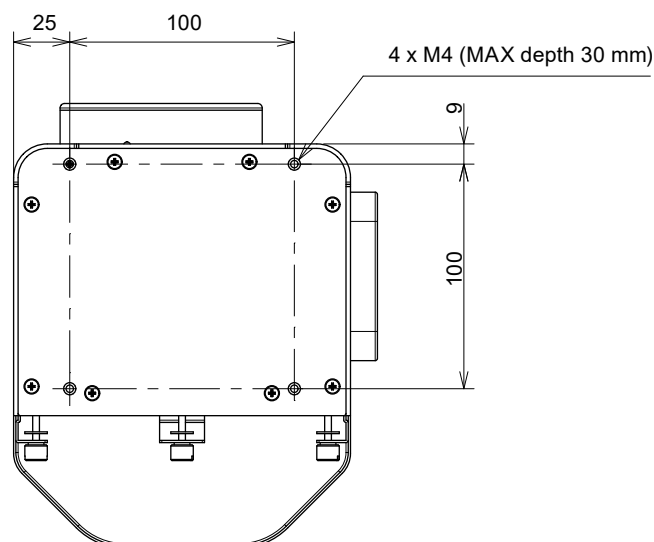
Attention

- Please follow the specifications for the screw tightening torque.

Screw tightening torque	1.0 N·m to 1.4 N·m
Required tools	Phillips screwdriver (No. 2)

Bottom of the Camera

Unit: mm

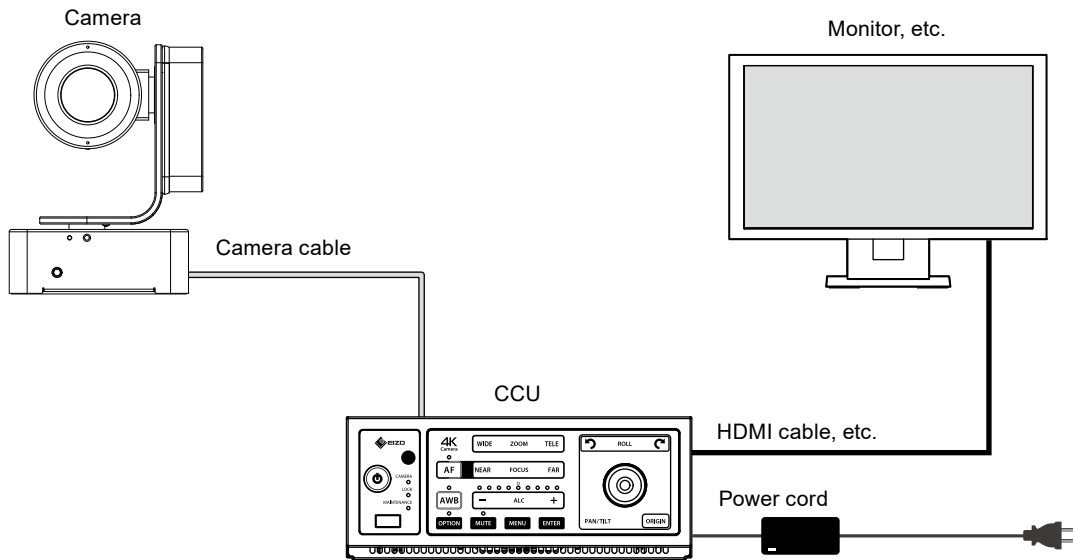


2-3. Connected

Attention

- Do not move the drive unit of the camera with your hand. Be sure to use the CCU Control Panel or the remote controller.

● Connection Example

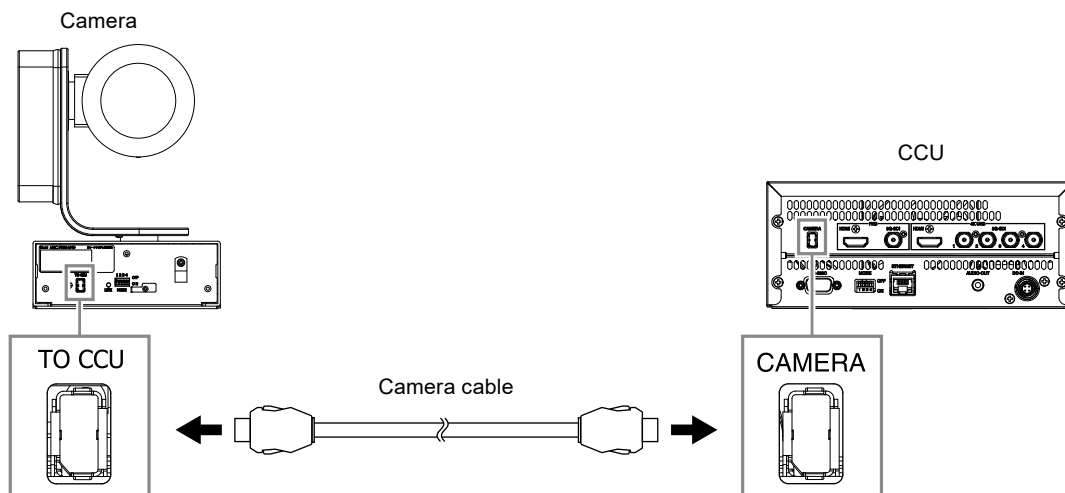


● Connecting the Camera with CCU

1. Connect the camera and CCU using a provided camera cable.

Attention

- Use the provided camera cable.
- In case of any damage is found with the cable, do not use it.
- Ensure that the camera cable is passed through the cable clamp.
- Ensure that at least 3 mm of the screw threads (of the screws locking the cable clamp in place) are coated with the thread-locking fluid included in the product package. Then, firmly tighten the screws.
- Disconnect the power cord.
- During the work, be sure to observe the following:
 - Do not touch the connector pins.
 - Do not touch pins at the end of any cable connected to a connector.
 - Take anti-static precautions such as using an anti-static wrist wrap when working.



2. Attach the cover to the rear side of the camera.

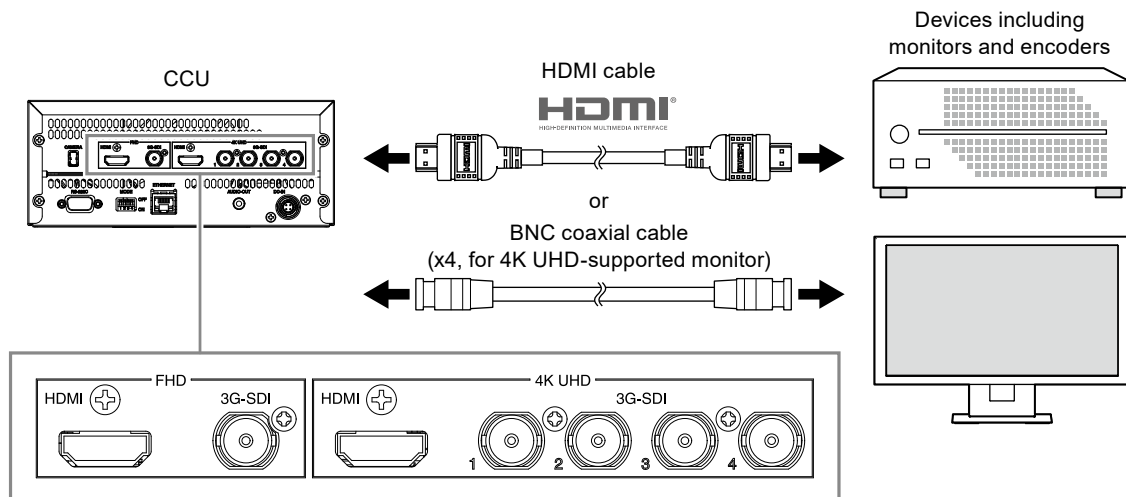
● Connecting Monitors and Encoders

To display or record images captured by the camera, it is necessary to connect a device, such as a monitor, an encoder, and a recorder.

1. Connect input terminals of the devices to the respective output terminals located on the rear side of CCU.

Attention

- Audio is output from the HDMI or SDI cable on the CCU side. If the connected monitor or encoder does not support audio input via HDMI or SDI, a stereo mini-jack cable needs to be connected.



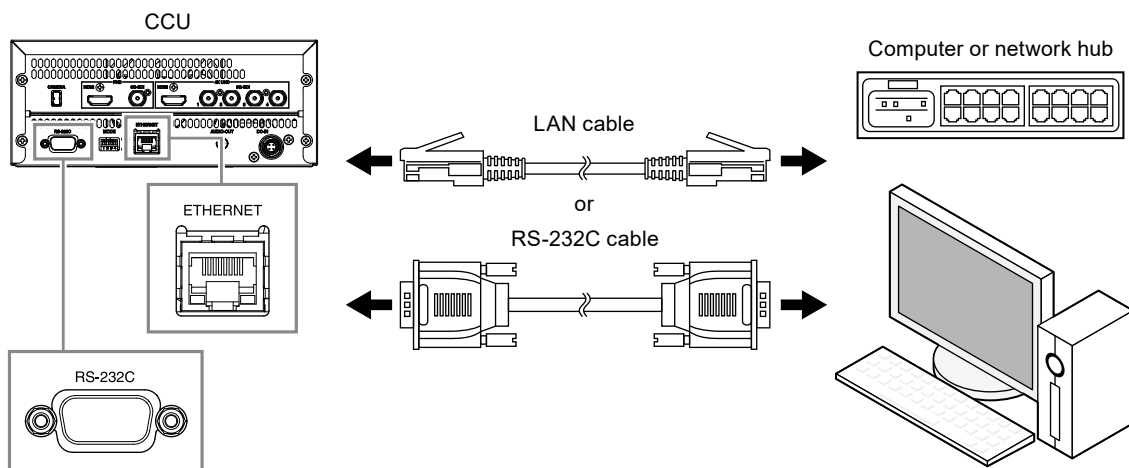
● Connecting a Computer (Optional)

To control a camera using the application, connect CCU to a computer.

1. Using a LAN cable or an RS-232C cable, connect the CCU with a computer.

Attention

- The LAN cable must be a CAT 5 straight cable or higher.
- To connect using a LAN cable, make sure to configure the network settings. The IP address in the factory default state is set to 192.168.1.100. Change it to an IP address assigned to the network for your operating environment. For details, contact your system administrator.
- To connect using RS-232C, use a crossover cable.
- For details on the communication protocols, please contact us.



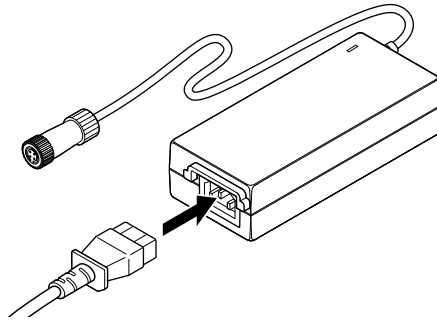
● Connecting the Power Cord

Attention

- Turn off this product before connecting it.
- When removing the power cord, always remove the power plug from the power outlet first.
- Use the provided power cord.

1. Connect the power cord to the AC IN terminal on the AC adapter.

Insert the power cord all the way to the back.

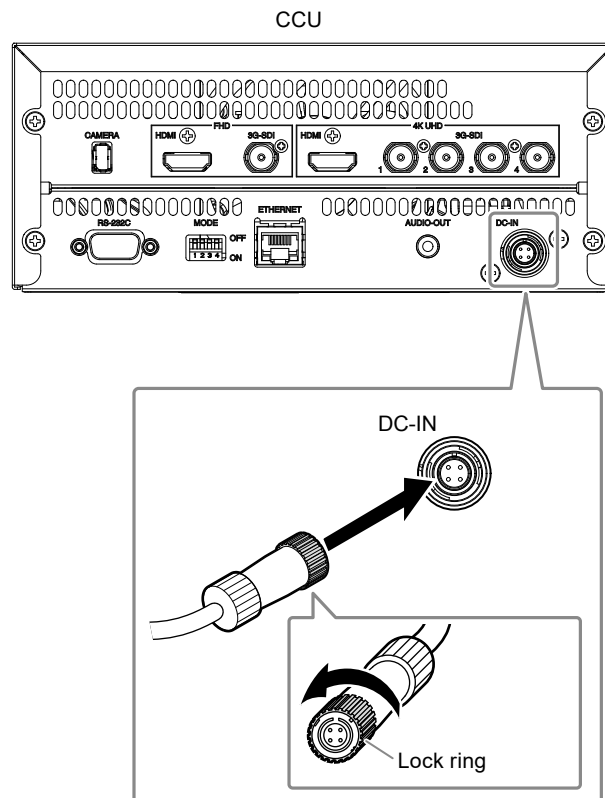


2. Connect the DC OUT terminal of the AC adapter to the DC IN terminal on the CCU.

Align the connector shape with the port shape, rotate the lock ring clockwise, and fix it securely.

Note

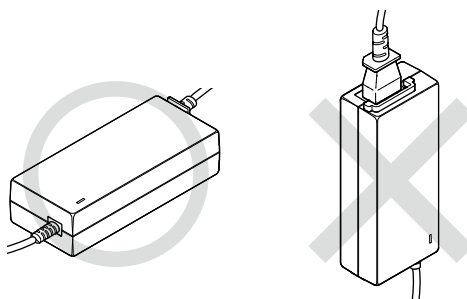
- If the lock ring is stiff and does not rotate, push it further into the CCU and try rotating it again.



3. Check the rated value on the AC adapter and connect the power plug to the power outlet.

Attention

- If the AC adapter is installed vertically, make sure that the AC IN terminal is not placed in an upward direction.



Correct: Horizontal position

Incorrect: Vertical position

- Do not use any object covering the AC adapter.
- Secure the adapter using a banding band such as a cable tie as necessary to prevent it from dropping.

Connecting the power cord starts supplying power (turning the main power indicator ON) and displays a test pattern.

Then, the image captured by the camera is displayed on the monitor.

Use an actual image and check if the brightness is appropriate. If not, adjust it accordingly.

See “2-4. Adjustments” (page 26) for details.

2-4. Adjustments

Connecting the power cord starts supplying the power and displays a test pattern on the connected monitor. Then, the image captured by the camera is displayed on the monitor.

Before using this product, it is recommended to configure some of the settings tailored to your operating environment.

The settings can be configured on the menu screen displayed on the monitor. Display the menu in the procedure described below.

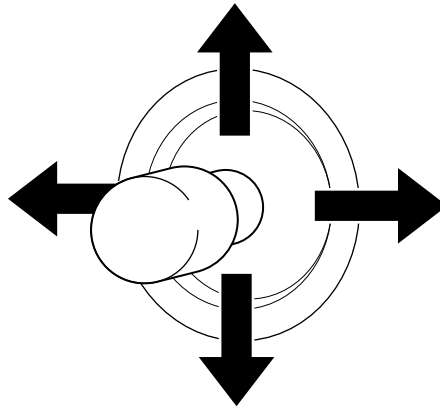
1. If the power is turned off, turn on the power switch located on the CCU front panel.

2. Press the “MENU” button.

The MENU screen appears on the monitor.

Note

- After a certain period of idle time, the menu screen will exit.
- Use the joystick to select a menu item.



● Setting the Installation Direction

When the camera is installed by hanging from the ceiling, the installation direction must be configured.

By configuring the installation direction, the image will be inverted, allowing the users to perform intuitive operation.

1. Press the “MENU” button.

2. Select “Camera & Lens” and press the ”ENTER” button or push the joystick toward right.

ALC	=>
Picture	=>
Color	=>
Camera & Lens	=>
Video Output	=>
Audio	=>
Device Setting	=>
Save/Load	=>
Information	=>
Language	English

- 3. Select “Installation Direction” and push the joystick toward right or left, and then select “CeilingSuspended”.**

<<===	Camera & Lens	====>
Zoom Speed	<----->	
Focus Speed	<----->	
PAN Speed	<----->	
TILT Speed	<----->	
ROLL Speed	<----->	
Installation Direction	CeilingSuspended	
ROLL Angle Sync	On	
Zoom Position Sync	On	

The test pattern is displayed, and the settings are reflected.

- 4. Press the “MENU” button to exit the settings.**

● Adjusting the Brightness

When using this product for the first time, the brightness adjustments are necessary. Use an actual image and check if the brightness is appropriate. If not, adjust it accordingly. Configure the following settings tailored to your operating environment.

Changing the ALC Level

If it is too bright or too dark, change the ALC level.

- 1. Press the “MENU” button.**

The MENU screen appears on the monitor.

- 2. Select “ALC”, and press the “ENTER” button or push the joystick toward right.**

ALC	=>
Picture	=>
Color	=>
Camera & Lens	=>
Video Output	=>
Audio	=>
Device Setting	=>
Save/Load	=>
Information	=>
Language	English

- 3. Select “Level” and push the joystick toward right or left.**

<<===	ALC	====>
ALC Mode	Full Auto	
Level	0dB	
Shutter Speed	1/100	
1/100 Tweak	1/100 = 1/100.9	
Iris	F6.3	
Gain	9dB	
Iris Limit(H)	F3.2	
Iris Limit(L)	F11	
Gain Limit	12dB	
Center Weighted Metering	Off	

Pushing the joystick toward right makes the screen brighter. Pushing it toward left makes the screen darker.

- 4. Press the “MENU” button to exit the settings.**

See “4-1. ALC” (page 31) for details on fine adjustments of the “ALC” menu.

Setting “White Balance(WB)” with the “OnePush” Function

When the white balance is affected by the red color (blood or organs) in the operative field, this setting will disable the automatic color adjustment during an operation.

1. Press the “MENU” button.

The MENU screen appears on the monitor.

2. Select “Color” and press the “ENTER” button or push the joystick toward right.

ALC	=>
Picture	=>
Color	=>
Camera & Lens	=>
Video Output	=>
Audio	=>
Device Setting	=>
Save/Load	=>
Information	=>
Language	English

3. Select “White Balance(WB)”, push the joystick toward right or left, and then select “OnePush”.

<<===	Color	===>>
White Balance(WB)	OnePush	Execute
WB Shift Red	< --- --->	
WB Shift Blue	< --- --->	
WB Reset	Execute	
Hue	< --- --->	
Saturation	< --- --->	

4. Capture an achromatic object to fill the entire screen, and push the “ENTER” button.

The white balance will be adjusted.

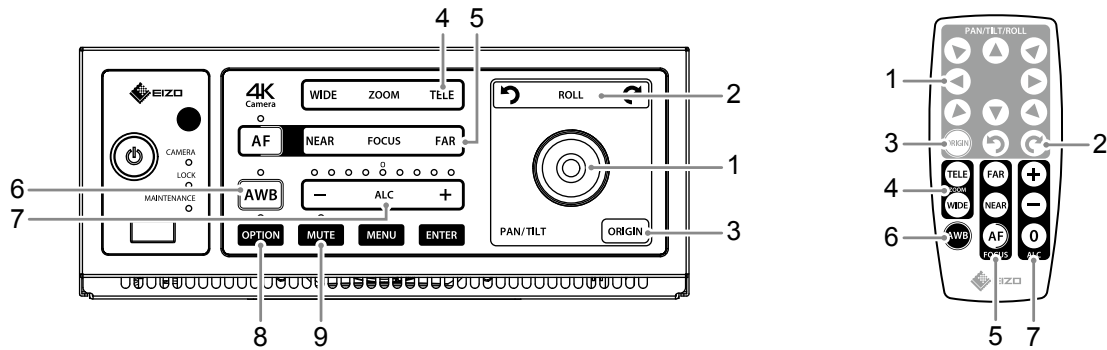
5. Press the “MENU” button to exit the settings.

Chapter 3 Operation

Attention

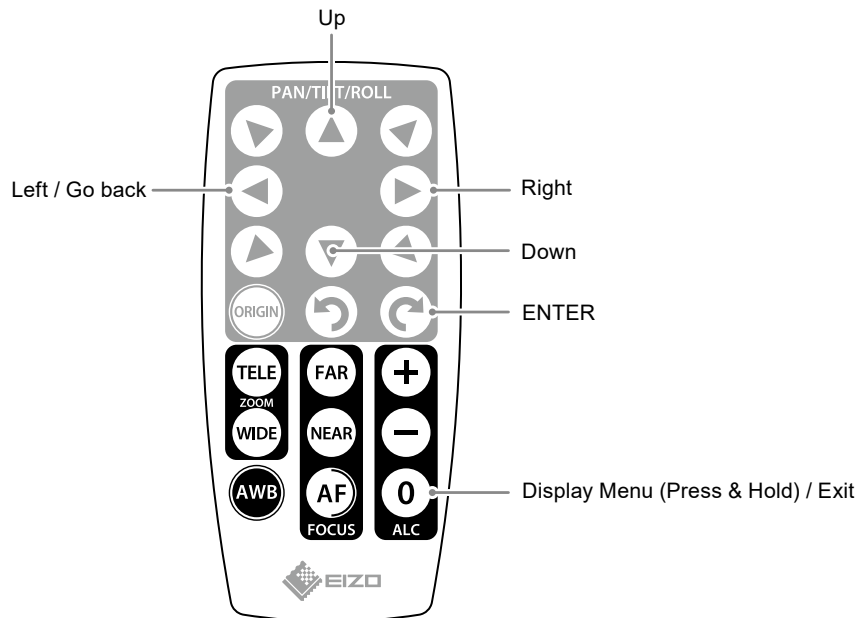
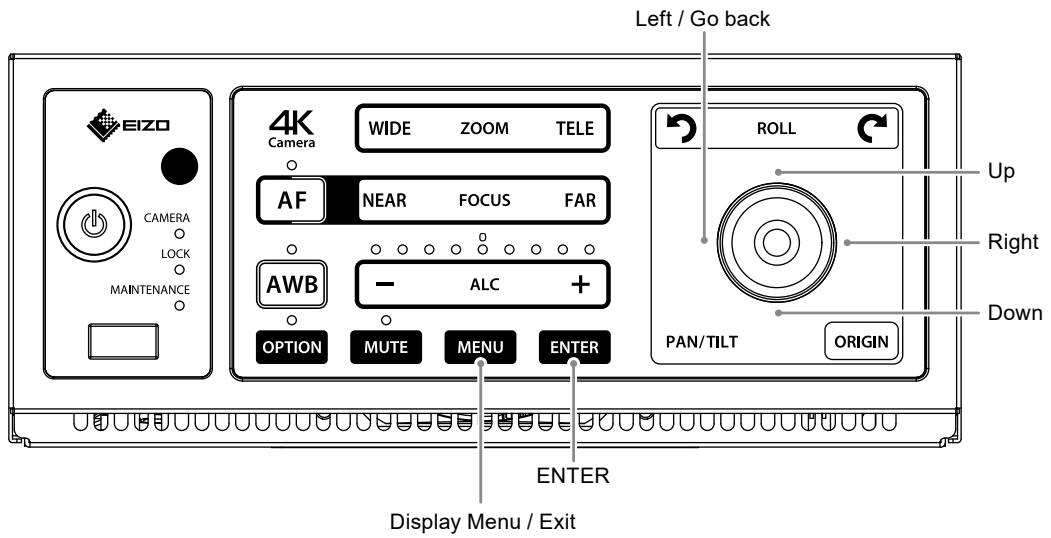
- Do not move the drive unit of the camera with your hand. Be sure to use the CCU Control Panel or the remote controller.

3-1. Camera Control



1. Joystick	Used for PAN/TILT movements of the camera. The camera moves to a direction to which the joystick is pushed. While the button on the remote controller is pressed down, the camera moves to the corresponding button direction.
2. ROLL	While ↺ is pressed, the camera rotates in a counterclockwise direction. While ↻ is pressed, the camera rotates in a clockwise direction.
3. ORIGIN	Hold down this button to restore the camera to the origin.
4. ZOOM	Used for zooming the camera. Keep pressing the “TELE” button to zoom in the telescopic direction. Keep pressing the “WIDE” button to zoom in the wide-angle direction.
5. FOCUS	Used for focusing the camera. Keep pressing the “FAR” button to focus farther. Keep pressing the “NEAR” button to focus closer. <ul style="list-style-type: none"> Press the “AF” button to execute the OnePush AF. Hold down the “AF” button (approx. 2 sec) to switch to the real-time AF. Press the “FAR” or “NEAR” button to enter the manual focus mode. (The OnePush AF and real-time AF will be canceled.) <p>Note</p> <ul style="list-style-type: none"> When capturing an object located at a fixed distance, using the OnePush AF function is recommended in order to prevent the focus from changing.
6. AWB	Used for automatically adjusting the color tint that is influenced by the light source color. Hold down the “AWB” button (approx. 2 sec) to keep the white balance at that point. When pressing this button, capture an achromatic object.
7. ALC	Used for adjusting the brightness level. Press the “+” / “-” button to change the image brightness. <ul style="list-style-type: none"> Remote Controller <ul style="list-style-type: none"> Press the “0” button to restore brightness level in the ALC mode to the initial state. Hold down the “0” button (approx. 2 sec) to display the menu.
8. OPTION	Used for accelerating the camera mount motion. See “4-7. Device Setting” (page 36) for details.
9. MUTE	Mutes audio output from the CCU.

3-2. Menu Operation



Chapter 4 Setting

This chapter introduces the functions that can be adjusted or configured by pressing the “MENU” button on the CCU front panel.

Note

- After a certain period of idle time, the menu screen will exit.
- To select and confirm a menu, use the joystick or the remote controller.
See “Chapter 3 Operation” (page 29) for details.

4-1. ALC

The image brightness settings are specified here.

<<===	ALC	===>>>
ALC Mode		Full Auto
Level		0dB
Shutter Speed		1/100
1/100 Tweak	1/100 =	1/100.9
Iris		F6.3
Gain		9dB
Iris Limit(H)		F3.2
Iris Limit(L)		F11
Gain Limit		12dB
Center Weighted Metering		Off

Features & Functions	Settings	Description
ALC Mode	Full Auto Shutter Priority Iris Priority Manual	The image brightness is adjusted automatically. <ul style="list-style-type: none"> • Full Auto The shutter, iris, and gain settings are adjusted automatically. • Shutter Priority The shutter speed is specified manually, and the iris and gain settings are adjusted automatically. • Iris Priority The iris value is specified manually, and the shutter speed and gain setting are adjusted automatically. • Manual The shutter, iris, and gain settings are adjusted manually.
Level	-4.0dB - +4.0dB	The ALC brightness level is specified. The brightness is automatically adjusted to the specified level. This setting can be configured when “ALC Mode” is set to either “Full Auto”, “Shutter Priority”, or “Iris Priority”.
Shutter Speed	[60Hz] 1/60, 1/90, 1/100, 1/120, 1/180, 1/250, 1/350, 1/500, 1/725, 1/1000, 1/1500, 1/2000, 1/2500, 1/3000, 1/5000, 1/10000 [50Hz] 1/50, 1/75, 1/100, 1/120, 1/150, 1/215, 1/300, 1/425, 1/600, 1/1000, 1/1250, 1/1750, 1/2500, 1/3000, 1/5000, 1/10000	The shutter speed is specified with a given value. When it is too bright, adjust the brightness by shortening the shutter speed. When it is too dark, extend the shutter speed. This setting can be configured when “ALC Mode” is set to either “Shutter Priority” or “Manual”. “Iris” and “Full Auto” are grayed out since they are adjusted automatically.
1/100 Tweak	1/87.2 - 1/112.7	To reduce flickering and horizontal stripes in videos, adjust the shutter speed close to 1/100. Fine adjustments can be made in 0.1 units. Adjustments can be made when “ALC Mode” is set to either “Shutter Priority” or “Manual”, and when “Shutter Speed” is set to 1/100.

Features & Functions	Settings	Description
Iris	F1.6, F2.0, F2.2, F2.7, F3.2, F3.8, F4.5, F5.4, F6.3, F7.8, F9.0, F11, F13, F16, F18	The iris value is specified with a given value. This setting can be configured when "ALC Mode" is set to "Iris Priority" or "Manual".
Gain	0dB, 3dB, 6dB, 9dB, 12dB, 15dB, 18dB, 21dB, 24dB, 27dB, 30dB, 33dB, 36dB, 39dB, 42dB, 45dB	The sensitivity level of exposure is specified here. The image brightness is determined. This setting can be configured when "ALC Mode" is set to "Manual".
Iris Limit(H) Iris Limit(L)	F3.2, F3.8, F4.5, F5.4, F6.3, F7.8, F9.0, F11	The smaller f-number (iris value) means that the depth of field is shallower. The greater f-number means that the depth of field is deeper. This setting can be configured when "ALC Mode" is set to "Full Auto" or "Shutter Priority".
Gain Limit	9dB, 12dB, 15dB, 18dB, 21dB, 24dB, 27dB, 30dB, 33dB, 36dB, 39dB, 42dB, 45dB	The upper gain limit is specified here. If the image is bright enough under shadowless lighting, it will prevent an unintended increase of the gain and noise generation. This setting can be configured when "ALC Mode" is set to "Full Auto", "Shutter Priority" or "Iris Priority".
Center Weighted Metering	Off On	If the center part of the image is unusually bright under shadowless lighting, turning this mode on will limit the ALC metering area to the center part only.

4-2. Picture

The image contrast settings are specified here.

<<===	Picture	===>>
Noise Reduction		Low
Sharpness		< --- --- >
Video Output Format		Camera

Features & Functions	Settings	Description
Noise Reduction	Off Low High	Suppresses noise in images.
Sharpness	0 - 14 ^{*1}	Sharpens video images.
Video Output Format	Camera Color Bar Gray Scale Cross Line	Select a type of images being output to the monitor. <ul style="list-style-type: none"> • Camera The images being captured by the camera are displayed. • Color Bar The color bar test pattern is displayed. • Gray Scale The gray scale test pattern is displayed. • Cross Line The leveling cross line is displayed.

*1 The settings are displayed on the slide bar.

4-3. Color

The color display settings are specified here.

<<===	Color	====
White Balance(WB)		OnePush Execute
WB Shift Red		<--- --->
WB Shift Blue		<--- --->
WB Reset		Execute
Hue		<--- --->
Saturation		<--- --->

Features & Functions	Settings	Description
White Balance(WB)	Auto(Narrow) Auto(Wide) OnePush Manual Indoor(3200K) Outdoor(5800K)	This function is used for adjusting the white balance. <ul style="list-style-type: none"> • Auto(Narrow) The white balance (2500K-7500K) is adjusted automatically according to the operating environment. • Auto(Wide) The white balance (2000K-10000K) is adjusted automatically according to the operating environment. • OnePush The white balance is adjusted when the “Execute” button is pressed. Once the adjustment is complete, the color tone is retained. The conditions for the object’s surroundings are not affected. • Manual The white balance is adjusted manually. • Indoor(3200K) The white balance is fixed at 3200K. • Outdoor(5800K) The white balance is fixed at 5800K.
WB Shift Red	0 - 128* ¹	The white balance is adjusted manually.
WB Shift Blue		This setting can be configured when “White Balance(WB)” is set to “Manual”.
WB Reset	Execute	Resets the white balance that was manually adjusted. This setting can be configured when “White Balance(WB)” is set to “Manual”.
Hue	0 - 15* ¹	The hue is adjusted.
Saturation	0 - 15* ¹	The image saturation is adjusted.

*¹ The settings are displayed on the slide bar.

4-4. Camera & Lens

The camera motion speed and installation direction are specified here.

<<=== Camera & Lens ===>>	
Zoom Speed	<----->
Focus Speed	<----->
PAN Speed	<----->
TILT Speed	<----->
ROLL Speed	<----->
Installation Direction	Normal
ROLL Angle Sync	On
Zoom Position Sync	On

Features & Functions	Settings	Description
Zoom Speed	1 - 8 ^{*1}	The zoom speed is adjusted.
Focus Speed	1 - 8 ^{*1}	The focus speed is adjusted.
PAN Speed	1 - 7 ^{*1}	The PAN speed is adjusted.
TILT Speed	1 - 7 ^{*1}	The TILT speed is adjusted.
ROLL Speed	1 - 7 ^{*1}	The ROLL speed is adjusted.
Installation Direction	Normal CeilingSuspended	The installation direction is adjusted. Selecting "CeilingSuspended" changes the image direction to allow intuitive operation.
ROLL Angle Sync	Off On	According to the roll angle, the PAN and TILT settings are controlled simultaneously so that the image moves horizontally and vertically in an intuitive manner.
Zoom Position Sync	Off On	The PAN and TILT rotation speed is adjusted automatically according to the zoom position. <ul style="list-style-type: none"> • TELE: Slow • WIDE: Fast

*1 The settings are displayed on the slide bar.

4-5. Video Output

The settings for the image output format is configured here.
Signals from all the ports are output simultaneously.

<<=== Video Output ===>>	
4K Output	
SDI Mode	INTERLEAVE
SDI BT.2020 Emulation	Off
2K Output	
SDI Output Mode	1080p
HDMI Output Mode	1080p
HDMI Color Space	YUV422

Features & Functions	Settings	Description				
4K Output SDI Mode	INTERLEAVE SQUARE	Select an output mode for 4K-SDI (sequence of data transmitted via four BNC coaxial cables) here. <table border="1"> <tr> <td>INTERLEAVE</td> <td>2 sample interleave</td> </tr> <tr> <td>SQUARE</td> <td>Square Division</td> </tr> </table>	INTERLEAVE	2 sample interleave	SQUARE	Square Division
INTERLEAVE	2 sample interleave					
SQUARE	Square Division					
SDI BT.2020 Emulation	Off On	The object captured by the camera is output by being emulated in the BT.2020 color gamut.				
2K Output SDI Output Mode	1080p 1080i	Select a resolution for the output from 2K-SDI.				
HDMI Output Mode	1080p 1080i	Select a resolution for the output from 2K-HDMI.				
HDMI Color Space	RGB(Limited) RGB(Full) YUV422	Select a color space for the output from 2K-HDMI. When a DVI device is connected, "RGB(Full)" is the only setting available.				

4-6. Audio

The settings for the audio output from the CCU is configured here.

<<=== Audio ===>>	
Audio Output	
4K HDMI	Off
4K SDI	Off
2K HDMI	Off
2K SDI	Off
Volume	< -- --- >

Features & Functions	Settings	Description
Audio Output 4K HDMI 4K SDI 2K HDMI 2K SDI	Off On	The ON / OFF settings for each audio output are individually specified here. Even if it is turned ON, audio is not output while the "MUTE" LED is lit on the CCU front panel.
Volume	0 - 80: 40dB ^{*1}	The volume is adjusted for audio being output from the CCU.

*1 The settings are displayed on the slide bar.

4-7. Device Setting

Various device settings are configured here.

<<=== Device Setting(1/2) ===>>	
Ethernet	=>
Option Button	PTR Acceleration
Control	
IR Remote(Camera)	On
IR Remote(CCU)	On
Control Panel	On

Features & Functions	Settings	Description								
Ethernet	-	Specify the network address. <table border="1" style="width: 100%;"> <tr> <td>IP Address</td> <td>Specify the IP address. Fill in "Addr0", "Addr1", "Addr2", and "Addr3" respectively.</td> </tr> <tr> <td>Subnet Mask</td> <td>Specify the subnet mask. Fill in "Mask0", "Mask1", "Mask2", and "Mask3" respectively.</td> </tr> <tr> <td>Gateway</td> <td>Specify the gateway. Fill in "Addr0", "Addr1", "Addr2", and "Addr3" respectively.</td> </tr> <tr> <td>Apply</td> <td>The network settings are applied. It is enabled only when the network settings are modified.</td> </tr> </table>	IP Address	Specify the IP address. Fill in "Addr0", "Addr1", "Addr2", and "Addr3" respectively.	Subnet Mask	Specify the subnet mask. Fill in "Mask0", "Mask1", "Mask2", and "Mask3" respectively.	Gateway	Specify the gateway. Fill in "Addr0", "Addr1", "Addr2", and "Addr3" respectively.	Apply	The network settings are applied. It is enabled only when the network settings are modified.
IP Address	Specify the IP address. Fill in "Addr0", "Addr1", "Addr2", and "Addr3" respectively.									
Subnet Mask	Specify the subnet mask. Fill in "Mask0", "Mask1", "Mask2", and "Mask3" respectively.									
Gateway	Specify the gateway. Fill in "Addr0", "Addr1", "Addr2", and "Addr3" respectively.									
Apply	The network settings are applied. It is enabled only when the network settings are modified.									
Option Button	Off PTR Acceleration	Selecting "PTR Acceleration" accelerates the camera motion. If the "PAN Speed", "TILT Speed", and "ROLL Speed" settings are set to the fastest level, it does not become faster.								
Control IR Remote(Camera)	On Off	Specify whether to enable or disable the light receiving section on the camera.								
IR Remote(CCU)	On Off	Specify whether to enable or disable the light receiving section on the CCU.								
Control Panel	On Off	Specify whether to use the front panel.								

```

<<=== Device Setting(2/2) ===>
Factory Reset      Partial Reset
USB Memory        =>
Software Update   =>

```

Features & Functions	Settings	Description	
Factory Reset	Partial Reset	The settings are restored to the factory default state.	
	All Reset	Partial Reset	The network settings and saved settings are retained, but the rest of them will be reset.
		All Reset	All the settings including the network settings and saved settings will be reset.
USB Memory	Save settings to USB memory Load settings from USB memory	The settings are saved into and loaded from a USB memory. The function is enabled when a USB memory is connected to the USB terminal.	
		Save settings to USB memory	Saves the settings to a USB memory all at once.
		Load settings from USB memory	Loads the settings from a USB memory all at once.
Software Update	-	The software is updated by using a USB memory. The function is enabled when a USB memory is connected to the USB terminal.	

4-8. Save / Load

This menu is used for saving or loading the settings for this product.

Use this menu for managing different sets of setting values to be used in varying operating environments.

```

<<=== Save/Load ===>
Save current settings User1
Load settings User1

## Restart automatically after loading ##
    
```

Features & Functions	Settings	Description
Save current settings	User1 - User8 System	The current settings are saved for the specified user number.
Load settings	User1 - User8 System	The settings loaded from the specified user number are modified. Once the settings are updated, the system restarts.

4-9. Information

The equipment information for this product is displayed.

The information is displayed for viewing only. It cannot be modified.

```

<<=== Information (1/3):Maintenance ===>
Model Name SC430-PTR

Ethernet Connected
MAC Address xx:xx:xx:xx:xx:xx
IP Address 192.168.1.100
Subnet Mask 255.255.255.0
Gateway 192.168.1.254

FPGA Temp[°C] xx.xxx
    
```

Features & Functions	Settings	Description
Model Name	SC430-PTR	The model name of this product is displayed.
Ethernet	Connected Not Connected	The connection status of Ethernet is displayed.
MAC Address	xx:xx:xx:xx:xx:xx	It is an equipment identification number unique to this product. It is also listed on the bottom of the CCU.
IP Address	0.0.0.0 -	The IP address, subnet mask, and gateway of this product will be displayed.
Subnet Mask	255.255.255.255	
Gateway		
FPGA Temp[°C]	xx.xxx	The current temperature of FPGA is displayed.

<<== Information (2/3):Version ==>>	
Model Name	SC430-PTR
CCU	
Serial No.	xxxxxxx
Version	Vxxxx
MCPU BOOT	R.xx.xx.xxxx
MCPU	R.xx.xx.xxxx
SCPU	R.xx.xx.xxxx
FPGA	R.xx.xx.xxxx
FPGA CPU	R.xx.xx.xxxx

Features & Functions	Settings	Description
Model Name	SC430-PTR	The model name of this product is displayed.
CCU		Information on the CCU is displayed.
Serial No.	xxxxxxx	
Version	Vxxxx	
MCPU BOOT	R.xx.xx.xxxx	
MCPU	R.xx.xx.xxxx	
SCPU	R.xx.xx.xxxx	
FPGA	R.xx.xx.xxxx	
FPGA CPU	R.xx.xx.xxxx	

<<== Information (3/3):Version ==>>	
Model Name	SC430-PTR
PTR	
Serial No.	xxxxxxx
Version	R.xx.xx.xxxx
Camera	
Serial No.	xxxx.xxxx.xx
Version	Vxxx

Features & Functions	Settings	Description
PTR		Information on the camera mount is displayed.
Serial No.	xxxxxxx	
Version	R.xx.xx.xxxx	
Camera		Information on the camera is displayed.
Serial No.	xxxx.xxxx.xx	
Version	Vxxx	

4-10. Language

Select a language.

ALC	=>
Picture	=>
Color	=>
Camera & Lens	=>
Video Output	=>
Audio	=>
Device Setting	=>
Save/Load	=>
Information	=>
Language	English

Features & Functions	Settings	Description
Language	Japanese English	Select a language.

Chapter 5 Maintenance

This chapter introduces the administrator functions that are related to the maintenance of this product.

5-1. Exporting the Settings

The settings for this product can be saved in a USB memory in a single operation. This function is useful for applying the same CCU settings of another operating room.

See “5-2. Loading the Settings” (page 42) for details on loading the settings.

Attention

- A USB memory is required for using this function. Please prepare it separately.
- The USB memory must be formatted in FAT32.
- Make sure that the USB memory is writable. If it is not writable, an error message appears.

1. Insert a USB memory into the USB terminal on the CCU front panel.

2. Press the “MENU” button.

3. Select “Device Setting”, and press the “ENTER” button or push the joystick toward right.

ALC	=>
Picture	=>
Color	=>
Camera & Lens	=>
Video Output	=>
Audio	=>
Device Setting	=>
Save/Load	=>
Information	=>
Language	English

4. Push the joystick toward right and display “Device Setting(2/2)”.

5. Select “USB Memory”, and press the “ENTER” button or push the joystick toward right.

<<===	Device Setting(2/2)	===>
	Factory Reset	Partial Reset
	USB Memory	=>
	Software Update	=>

6. Select “Save settings to USB memory”, and press the “ENTER” button or push the joystick toward right.

```
<<===      USB Memory      ===>>
Save settings to USB memory  Yes
Load settings from USB memory No

## Restart automatically after loading ##
```

7. Press the “ENTER” button.

The settings are saved in the USB memory.

5-2. Loading the Settings

The settings for this product can be loaded from a USB memory and updated in a single operation. This function is useful for applying the same CCU settings of another operating room.

The settings that can be loaded are those exported from the CCU only.

See “5-1. Exporting the Settings” (page 40) for details on writing the settings.

1. Insert a USB memory into the USB terminal on the CCU front panel.
2. Press the “MENU” button.
3. Select “Device Setting”, and press the “ENTER” button or push the joystick toward right.

ALC	=>
Picture	=>
Color	=>
Camera & Lens	=>
Video Output	=>
Audio	=>
Device Setting	=>
Save/Load	=>
Information	=>
Language	English

4. Push the joystick toward right and display “Device Setting(2/2)”.
5. Select “USB Memory”, and press the “ENTER” button or push the joystick toward right.

<<===	Device Setting(2/2)	===>>
	Factory Reset	Partial Reset
	USB Memory	=>
	Software Update	=>

6. Select “Load settings from USB memory”, and press the “ENTER” button or push the joystick toward right.

<<===	USB Memory	===>>
	Save settings to USB memory	No
	Load settings from USB memory	Yes
## Restart automatically after loading ##		

7. Press the “ENTER” button.

When the settings are loaded, the system restarts.

5-3. Software Update

The software is updated by using a USB memory.

Chapter 6 Menu List

ALC	page 31
ALC Mode	
Level	
Shutter Speed	
1/100 Tweak	
Iris	
Gain	
Iris Limit(H)	
Iris Limit(L)	
Gain Limit	
Center Weighted Metering	
Picture	page 32
Noise Reduction	
Sharpness	
Video Output Format	
Color	page 33
White Balance(WB)	
WB Shift Red	
WB Shift Blue	
WB Reset	
Hue	
Saturation	
Camera & Lens	page 34
Zoom Speed	
Focus Speed	
PAN Speed	
TILT Speed	
ROLL Speed	
Installation Direction	
ROLL Angle Sync	
Zoom Position Sync	
Video Output	page 35
4K Output	
SDI Mode	
SDI BT.2020 Emulation	
2K Output	
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HDMI Output Mode	
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4K HDMI	
4K SDI	
2K HDMI	
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Device Setting	page 36
Device Setting(1/2)	
Ethernet	
Option Button	
Control	
IR Remote(Camera)	
IR Remote(CCU)	
Control Panel	
Device Setting(2/2)	
Factory Reset	
USB Memory	
Software Update	

- Save / Loadpage 38
 - Save current settings
 - Load settings
- Informationpage 38
 - Information (1/3):Maintenance
 - Model Name
 - Ethernet
 - MAC Address
 - IP Address
 - Subnet Mask
 - Gateway
 - FPGA Temp[°C]
 - Information (2/3):Version
 - Model Name
 - CCU
 - Serial No.
 - Version
 - MCPU BOOT
 - MCPU
 - SCPU
 - FPGA
 - FPGA CPU
 - Information (3/3):Version
 - Model Name
 - PTR
 - Serial No.
 - Version
 - Camera
 - Serial No.
 - Version
- Languagepage 39

Chapter 7 Troubleshooting

7-1. If No Video Is Output

Problem	Possible cause and remedy
1. The CCU power indicator does not turn on.	<ul style="list-style-type: none"> • Check whether the power cord is connected properly. • Check whether the DC OUT terminal of the AC adapter and the DC IN terminal of the CCU are connected properly. • Check whether the main power indicator of the AC adapter is on.
2. The camera's LED indicator does not turn on.	<ul style="list-style-type: none"> • Turn on the power switch. • Are the CCU and the camera connected with a camera cable? • Turn off the power, and then turn it on again.
3. The monitor shows the signal error message.	<ul style="list-style-type: none"> • Is the MODE switch of the CCU set to a correct mode (PAL(50Hz) mode or NTSC(60Hz) mode)? (See "7. MODE switch" (page 14).)
4. The test pattern is displayed, and the camera images are not displayed.	<ul style="list-style-type: none"> • Are the CCU and the camera connected with a camera cable? • Is "Video Output Format" set to "Camera"? (See "4-5. Video Output" (page 35).)
5. The image color is not displayed properly.	<ul style="list-style-type: none"> • Check the color format settings of the monitor.
6. The image is blacked out.	<ul style="list-style-type: none"> • Remove the lens protection cover.
7. The image is flickering and showing horizontal stripes.	<p>Flickering and horizontal stripes may appear in videos recorded under artificial light such as fluorescent light and light from mercury lamps.</p> <ul style="list-style-type: none"> • Set "Shutter Speed" to 1/50, 1/60, or 1/100. (See "Shutter Speed" (page 31).) • If the issue does not improve, make fine adjustments with "1/100 Tweak". (See "1/100 Tweak" (page 31).)

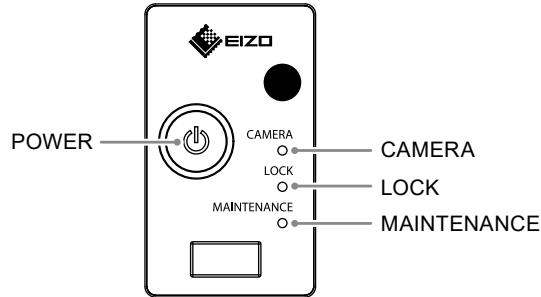
7-2. Other Problems

Problem	Possible cause and remedy
1. The camera does not move.	<ul style="list-style-type: none"> • Are all the MODE switches of the camera turned off? (See "2. MODE switch" (page 16).) • If the "TELE" button is used for image display, the images may appear to be stalling even after controlling PAN/TILT/ROLL motions. Try increasing the camera speed. (See "4-4. Camera & Lens" (page 34)). • [Control from the CCU] Is the LED for "LOCK" on the CCU front panel lit? If it is lit, the control from the CCU is locked. Press the buttons in the following order and unlock the control. "AWB" -> "TELE" -> "FAR" -> "+" -> "-" -> "NEAR" -> "WIDE" -> "AWB" • [Control from the Remote Controller] Check the batteries of the remote controller. Check to see if "IR Remote(Camera)" is turned off. (See "4-7. Device Setting" (page 36).)
2. No audio	<ul style="list-style-type: none"> • Is the "MUTE" LED on the CCU front panel lit? Press the "MUTE" button and cancel the mute function. (See "9. MUTE" (page 29).) • Is "Audio Output" for "Audio" turned off? (See "4-6. Audio" (page 35).) All the settings are turned off in the factory default state.
3. The USB memory is not recognized.	<ul style="list-style-type: none"> • The USB memory must be formatted in FAT32.

7-3. Specifications of the LED Lighting

The LED indicators will light up or start flashing in accordance with the system status.
When you contact us, you may be asked to check the LED status.

● CCU Front



LED status		Product status
POWER	Lit in orange	The main power is turned off.
CAMERA		
LOCK		
MAINTENANCE		
POWER	Orange and blue lights are flashing alternately	The system of this product has crashed.
CAMERA		
LOCK		
MAINTENANCE		
POWER	Lit in blue	Connection with the camera is being verified.* ¹
CAMERA	Flashing in yellow	
LOCK		
MAINTENANCE		
POWER	Lit in blue	A camera is connected.
CAMERA	Lit in yellow	
LOCK		
MAINTENANCE		
POWER	Lit in blue	Key lock is activated.* ²
CAMERA		
LOCK	Lit in yellow	
MAINTENANCE		
POWER	Lit in blue	The remote control is being received.
CAMERA		
LOCK	Flashing in yellow	
MAINTENANCE		
POWER	Lit in blue	A USB memory is being connected.* ¹
CAMERA		
LOCK		
MAINTENANCE	Flashing in red	

LED status		Product status
POWER	Lit in blue	A USB memory is connected.
CAMERA		
LOCK		
MAINTENANCE	Lit in red	

*1 If the connected device is not recognized, the LED will not respond.

*2 If the key lock is deactivated, the LED status will not change.

● Camera Front

LED status	Product status
Flashing in red	The inside of the camera is extremely hot. Or, the camera was brought to an emergency stop.

Chapter 8 Specifications

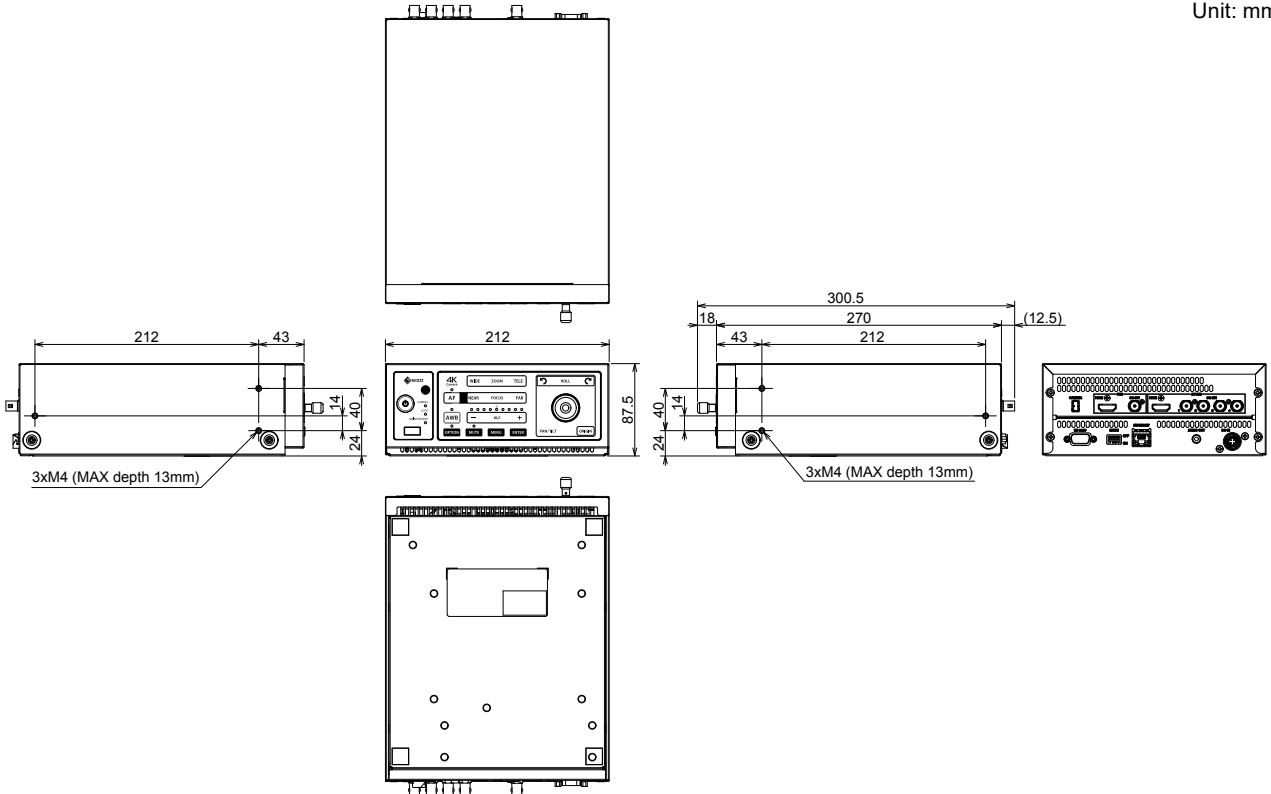
8-1. Specifications

Camera		
Image Sensor	1/2.5 type CMOS, single chip type	
Effective Pixels	3840 × 2160	
Zoom	Optical 30x motorized zoom	
Focal length	f=4.6 (W) - 135 (T) mm	
Horizontal Field of View	Approx. 68 (W) - Approx. 2.6 (T) deg.	
Minimum Object Distance (M.O.D.)	1500 mm (full range) 1000 mm (w/Close-up lens attached)	
Filter Diameter	72 mm	
Focus Control	Electric (Auto/Manual)	
Iris Control	Electric (Auto/Manual)	
PAN Range	+/-170 deg.	
TILT Range	+ 90 / -30 deg.	
ROLL Range	+/-165 deg.	
PAN Speed	8.6 to 0.05 deg/s, 7 steps	
TILT Speed	8.6 to 0.05 deg/s, 7 steps	
ROLL Speed	30 to 0.2 deg/s, 7 steps	
Others	Built-in microphone	
Features & Functions		
Image Control	Auto Level Control (ALC), Center Weighted Metering, BT2020 Emulation, White Balance, Sharpness	
Gain	Auto / Manual (0 to 45 db)	
Shutter Speed	[59.94 Hz]	1/60 to 1/10000
	[50 Hz]	1/50 to 1/10000
Picture Flip/Mirror	Top/Bottom, Left/Right, Top/Bottom and Left/Right Invert	
Video Format		
4K UHD	HDMI	2160/59.94p, 2160/50p
	SDI	2160/59.94p, 2160/50p
2K FHD	HDMI	1080/59.94p, 1080/59.94i, 1080/50p, 1080/50i
	SDI	1080/59.94p, 1080/59.94i, 1080/50p, 1080/50i
Output Terminals		
4K	HDMI x 1, 3G-SDI(BNC) x 4	
2K	HDMI x 1, 3G-SDI(BNC) x 1	
Remote Control		
Remote Control	LAN, RS-232C, IR remote controller (AAA batteries are used)	
Power		
CCU	Input	24 VDC ± 10%, 2.1 A
	Maximum power consumption	Max. 50.4 W
AC Adapter (AHM100PS24)	Input	100 VAC to 240 VAC ± 10%, 50 / 60 Hz, 1.2 A
	Maximum power consumption	Max. 55W
Physical Specifications		
Camera	External dimensions (W x H x D)	162 mm x 211.5 mm x 201 mm (w/Cable cover attached)
	Net weight	Approx. 3.1 kg
	Mounting hole pitch	100 mm x 100 mm
CCU	External dimensions (W x H x D)	212 mm x 87.5 mm x 270 mm (excluding protrusions)
	Net weight	Approx. 2.9 kg
Operating Environmental Requirements		
Temperature	0 °C to 40 °C/ 0 °C to 35 °C for Camera	
Humidity	20 % to 80 % R.H. (no condensation)	
Air Pressure	540 hPa to 1060 hPa	
Transportation / Storage Environmental Requirements		
Temperature	-20 °C to 60 °C	
Humidity	10 % to 90 % R.H. (no condensation)	
Air Pressure	200 hPa to 1060 hPa	

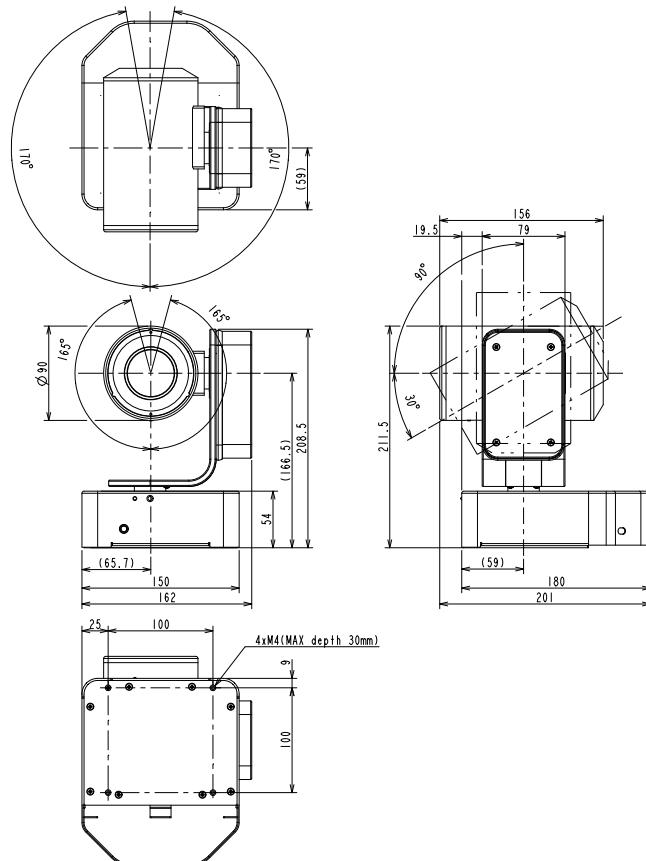
8-2. External Dimensions

● CCU

Unit: mm



● Camera



Appendix

Trademark

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Medical Standard

- It is necessary to ensure that the final system is in compliance with IEC60601-1-1 requirements.
- Power-supplied equipment can emit electromagnetic waves, that could influence, limit or result in malfunction of the product. Install the equipment in a controlled environment, in which such effects are avoided.

Classification of Equipment

- Electric shock protection type: Class I
- Mode of operation: Continuous
- IP class: IPX0

EMC Information

SC430-PTR has the capabilities of capturing images with the camera and outputting the images.

Intended Use Environments

The SC430-PTR is intended to be used in professional healthcare facility environments such as clinics and hospitals (including use in the vicinity of high-frequency surgical equipment such as electrosurgical knives).

The following environments are not suitable for using the SC430-PTR.

- Home healthcare environments
- In the vicinity of short-wave therapy equipment
- RF shielded room of MRI medical equipment systems
- In shielded special environments
- Installed in vehicles including ambulances
- Other special environments

WARNING

The SC430-PTR requires special precautions regarding EMC and during installation. You need to carefully read the EMC Information and the “PRECAUTIONS” section of this document, and observe the following instructions when installing and operating the product.

The SC430-PTR should not be used adjacent to or stacked with other equipment. If adjacent or stacked use is necessary, the equipment or system should be observed to check for normal operation in the configuration in which it will be used.

When using portable RF communication equipment, keep it 30 cm (12 inches) or more away from any part, including cables, of the SC430-PTR. Otherwise, degradation of the performance of this equipment could result.

Anyone who connects additional equipment to the signal input parts or signal output parts when configuring a medical system is responsible for ensuring that the system complies with the requirements of IEC/EN60601-1-2.

Images may be distorted if the product is used near a device such as high-frequency surgical equipment. Check in advance to ensure that no problems occur during use.

Be sure to use cables that satisfy the following requirements.


Use of cables that do not satisfy the requirements could result in increased electromagnetic emissions, reduced electromagnetic immunity of this equipment, and incorrect operation.

Cables	Max. Cable Length	Shielding
DC Cord	2.5 m	Shielded
AC Cord	2 m	Unshielded
BNC Cable (SDI)	30 m	Shielded
HDMI Cable	5 m	Shielded
RS-232C Cable	5 m	Shielded
USB Cable	5 m	Shielded
Camera Cable	25 m	Shielded
LAN Cable	30 m	Unshielded
Audio Cable	5 m	Shielded

Technical Specifications

Electromagnetic emissions		
The SC430-PTR is intended for use in the electromagnetic environment specified below. The customer or the user of the SC430-PTR should assure that it is used in such an environment.		
Emission test	Compliance	Electromagnetic environment - Guidance
RF emissions CISPR11 / EN55011	Group 1	The SC430-PTR uses RF energy only for its internal function. Therefore, its RF emissions are very low and not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR11 / EN55011	Class A	The EMISSIONS characteristics of the SC430-PTR make it suitable for use in industrial areas and hospitals (CISPR11 class A). If it is used in a residential environment (for which CISPR11 class B is normally required) the SC430-PTR might not offer adequate protection to radio-frequency communication services. The user might need to take mitigation measures, such as relocating or re-orienting the equipment.
Harmonic emissions IEC / EN61000-3-2	Class A	
Voltage fluctuations / flicker emissions IEC / EN61000-3-3	Complies	

Electromagnetic immunity			
The SC430-PTR has been tested at the following compliance levels according to the testing requirements for professional healthcare facility environments defined in IEC / EN60601-1-2. Customers and users of the SC430-PTR must ensure that the SC430-PTR is used in the following environments:			
Immunity test	Test level for professional healthcare facility environments	Compliance level	Electromagnetic environment - Guidance
Electrostatic discharge (ESD) IEC / EN61000-4-2	±8 kV contact discharge ±15 kV air discharge	±8 kV contact discharge ±15 kV air discharge	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transients / bursts IEC / EN61000-4-4	±2 kV power lines ±1 kV input / output lines	±2 kV power lines ±1 kV input / output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surges IEC / EN61000-4-5	±1 kV line to line ±2 kV line to ground	±1 kV line to line ±2 kV line to ground	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC / EN61000-4-11	0 % U_T (100 % dip in U_T) 0.5 cycles and 1 cycle 70 % U_T (30 % dip in U_T) 25 cycles 0 % U_T (100 % dip in U_T) 5 sec	0 % U_T (100 % dip in U_T) 0.5 cycles and 1 cycle 70 % U_T (30 % dip in U_T) 25 cycles 0 % U_T (100 % dip in U_T) 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the SC430-PTR requires continued operation during power mains interruptions, it is recommended that the SC430-PTR be powered from an uninterruptible power supply or a battery.
Power frequency magnetic fields IEC / EN61000-4-8	30 A/m (50 / 60 Hz)	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment. The product should be kept at least 15 cm away from the source of power frequency magnetic fields during use.

Electromagnetic immunity			
The SC430-PTR has been tested at the following compliance levels according to the testing requirements for professional healthcare facility environments defined in IEC / EN60601-1-2. Customers and users of the SC430-PTR must ensure that the SC430-PTR is used in the following environments:			
Immunity test	Test level for professional healthcare facility environments	Compliance level	Electromagnetic environment - Guidance
Conducted disturbances induced by RF fields IEC / EN61000-4-6	3 Vrms 150 kHz - 80 MHz	3 Vrms	Portable and mobile RF communications equipment should be used no closer to any part of the SC430-PTR, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $d = 1.2\sqrt{P}$
Radiated RF fields IEC / EN61000-4-3	6 Vrms ISM bands between 150 kHz and 80 MHz	6 Vrms	
	3 V/m 80 MHz - 2.7 GHz	3 V/m	$d = 1.2\sqrt{P}$, 80 MHz - 800 MHz $d = 2.3\sqrt{P}$, 800 MHz - 2.7 GHz Where "P" is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and "d" is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey ^{a)} , should be less than the compliance level in each frequency range ^{b)} . Interference may occur in the vicinity of equipment marked with the following symbol. 
Note 1	U _T is the a.c. mains voltage prior to application of the test level.		
Note 2	At 80 MHz and 800 MHz, the higher frequency range applies.		
Note 3	Guidelines regarding conducted disturbances induced by RF fields or radiated RF fields may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.		
Note 4	The ISM bands between 150 kHz and 80 MHz are 6.765 MHz to 6.795 MHz, 13.553 MHz to 13.567 MHz, 26.957 MHz to 27.283 MHz, and 40.66 MHz to 40.70 MHz.		
a)	Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the SC430-PTR is used exceeds the applicable RF compliance level above, the SC430-PTR should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the SC430-PTR.		
b)	Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.		

Recommended separation distances between portable or mobile RF communication equipment and the SC430-PTR

The SC430-PTR is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the SC430-PTR can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the SC430-PTR. Immunity to proximity fields from the following RF wireless communication equipment has been confirmed:

Test frequency (MHz)	Bandwidth ^{a)} (MHz)	Service ^{a)}	Modulation ^{b)}	Maximum power (W)	Minimum separation distance (m)	IEC / EN60601 test level (V/m)	Compliance level (V/m)
385	380 - 390	TETRA 400	Pulse modulation ^{b)} 18 Hz	1.8	0.3	27	27
450	430 - 470	GMRS 460, FRS 460	FM ±5 kHz deviation 1 kHz sine	2	0.3	28	28
710 745 780	704 - 787	LTE Band 13, 17	Pulse modulation ^{b)} 217 Hz	0.2	0.3	9	9
810 870 930	800 - 960	GSM 800 / 900, TETRA 800, iDEN 820 CDMA 850, LTE Band 5	Pulse modulation ^{b)} 18 Hz	2	0.3	28	28
1720 1845 1970	1700 - 1990	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1, 3, 4, 25; UMTS	Pulse modulation ^{b)} 217 Hz	2	0.3	28	28
2450	2400 - 2570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7	Pulse modulation ^{b)} 217 Hz	2	0.3	28	28
5240 5500 5785	5100 - 5800	WLAN 802.11 a/n	Pulse modulation ^{b)} 217 Hz	0.2	0.3	9	9

a) For some services, only the uplink frequencies are included.

b) Carrier waves are modulated using a 50 % duty cycle square wave signal.

The SC430-PTR is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. For other portable and mobile RF communication equipment (transmitters), the minimum distance between portable and mobile RF communications equipment (transmitters) and the SC430-PTR should be as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter (W)	Separation distance according to frequency of transmitter (m)		
	150 kHz to 80 MHz $d = 1.2\sqrt{P}$	80 MHz to 800 MHz $d = 1.2\sqrt{P}$	800 MHz to 2.7 GHz $d = 2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance "d" in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where "P" is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

Note 1 At 80 MHz and 800 MHz, the separation distance for a higher frequency range applies.

Note 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Warning for Radio interference

For U.S.A, Canada Only

FCC Supplier's Declaration of Conformity

We, the Responsible Party

EIZO Inc.

5710 Warland Drive, Cypress, CA 90630

Phone: (562) 431-5011

declare that the product

Trade name: EIZO

Model: CuratOR SC430-PTR

is in conformity with Part 15 of the FCC Rules. Operation of this product is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

WARNING!

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note

Use the attached specified cable below or EIZO signal cable with this product so as to keep interference within the limits of a Class A digital device.

- AC Cord
- Shielded Signal Cable (enclosed)

Canadian Notice

This Class A information technology equipment complies with Canadian ICES-003.

Cet équipement informatique de classe A est conforme à la norme NMB-003 du Canada.

For Europe, Australia, New Zealand, etc Only

Warning

Operation of this equipment in a residential environment could cause radio interference.

Warnung

Der Betrieb dieses Geräts in einer Wohnumgebung könnte Funkstörungen verursachen.

Avertissement

L'utilisation de cet équipement dans une zone résidentielle pourrait provoquer des interférences radio.

LIMITED WARRANTY

EIZO Corporation (hereinafter referred to as “**EIZO**”) and distributors authorized by EIZO (hereinafter referred to as the “**Distributors**”) warrant, subject to and in accordance with the terms of this limited warranty (hereinafter referred to as the “**Warranty**”), to the original purchaser (hereinafter referred to as the “**Original Purchaser**”) who purchased the product specified in this document (hereinafter referred to as the “**Product**”) from EIZO or Distributors, that EIZO and Distributors shall, at their sole discretion, either repair or replace the Product at no charge if the Original Purchaser becomes aware within the Warranty Period (defined below) that the Product malfunctions or is damaged in the course of normal use of the Product in accordance with the description in the instruction manual of the Product (hereinafter referred to as the “**User’s Manual**”).

The period of this Warranty is two (2) years from the date of purchase of the Product (hereinafter referred to as the “**Warranty Period**”). EIZO and Distributors shall bear no liability or obligation with regard to the Product in relation to the Original Purchaser or any third parties other than as provided under this Warranty.

EIZO and Distributors will cease to hold or store any parts (excluding design parts) of the Product upon expiration of five (5) years after the production of the Product is discontinued. In repairing the Product, EIZO and Distributors will use renewal parts which comply with our QC standards. If the unit cannot be repaired due to its condition or the stockout of a relevant part, EIZO and Distributors may offer the replacement by a product with equivalent performance instead of repairing it.

The Warranty is valid only in the countries or territories where the Distributors are located. The Warranty does not restrict any legal rights of the Original Purchaser.

Notwithstanding any other provision of this Warranty, EIZO and Distributors shall have no obligation under this Warranty whatsoever in any of the cases as set forth below:

- (a) Any defect of the Product caused by freight damage, modification, alteration, abuse, misuse, accident, incorrect installation, disaster, adherent dust, faulty maintenance and/or improper repair by third party other than EIZO and Distributors;
- (b) Any incompatibility of the Product due to possible technical innovations and/or regulations;
- (c) Any deterioration of the sensor, including measurement value of the sensor;
- (d) Any defect of the Product caused by external equipments;
- (e) Any defect of the Product caused by the use under environmental conditions other than EIZO and Distributors’ estimation;
- (f) Any deterioration of the attachments of the Product (e.g. cables, User’s Manual, remote controller, etc.);
- (g) Any deterioration of the consumables, and/or accessories of the Product (e.g. batteries, etc.);
- (h) Any deformation, discoloration, and/or warp of the exterior of the Product;
- (i) Any defect of the Product caused by placement in a location where it may be affected by strong vibration or shocks;
- (j) Any defect of the Product caused by liquid leaking from battery.

To obtain service under the Warranty, the Original Purchaser must deliver the Product, freight prepaid, in its original package or other adequate package affording an equal degree of protection, assuming the risk of damage and/or loss in transit, to the local Distributor. The Original Purchaser must present proof of purchase of the Product and the date of such purchase when requesting services under the Warranty.

The Warranty Period for any replaced and/or repaired product under this Warranty shall expire at the end of the original Warranty Period.

EIZO OR DISTRIBUTORS ARE NOT RESPONSIBLE FOR ANY DAMAGE TO, OR LOSS OF, DATA OR OTHER INFORMATION STORED IN ANY MEDIA OR ANY PART OF ANY PRODUCT RETURNED TO EIZO OR DISTRIBUTORS FOR REPAIR.

EIZO AND DISTRIBUTORS MAKE NO FURTHER WARRANTIES, EXPRESSED OR IMPLIED, WITH RESPECT TO, INCLUDING, WITHOUT LIMITATION, THE PRODUCT AND ITS QUALITY, PERFORMANCE, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR USE. IN NO EVENT SHALL EIZO OR DISTRIBUTORS BE LIABLE FOR ANY INCIDENTAL, INDIRECT, SPECIAL, CONSEQUENTIAL OR OTHER DAMAGE WHATSOEVER (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF PROFIT, BUSINESS INTERRUPTION, LOSS OF BUSINESS INFORMATION, OR ANY OTHER PECUNIARY LOSS) ARISING OUT OF THE USE OR INABILITY TO USE THE PRODUCT OR IN ANY CONNECTION WITH THE PRODUCT, WHETHER BASED ON CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, EVEN IF EIZO OR DISTRIBUTORS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THIS EXCLUSION ALSO INCLUDES ANY LIABILITY WHICH MAY ARISE OUT OF THIRD PARTY CLAIMS AGAINST THE ORIGINAL PURCHASER. THE ESSENCE OF THIS PROVISION IS TO LIMIT THE POTENTIAL LIABILITY OF EIZO AND DISTRIBUTORS ARISING OUT OF THIS LIMITED WARRANTY AND/OR SALES.

Recycling Information

Recycling Information

This product, when disposed of, is supposed to be collected and recycled according to your country's legislation to reduce environmental burden. When you dispose of this product, please contact a distributor or an affiliate in your country.

The contact addressees are listed on the EIZO website below.

www.eizoglobal.com

For recycling information for customers in Switzerland, please refer to the following website.

www.swico.ch

Informationen zum Thema Recycling

Dieses Produkt muss gemäß den Vorschriften Ihres Landes zur Entlastung der Umwelt recyclet werden. Wenden Sie sich bei der Entsorgung dieses Produkts an einen Verteiler oder eine Tochtergesellschaft in Ihrem Land.

Die Adressen zur Kontaktaufnahme sind auf der unten angegebenen Website von EIZO aufgeführt.

www.eizoglobal.com

Kunden in der Schweiz entnehmen Informationen zum Recycling der folgenden Website:

www.swico.ch

Informations sur le recyclage

Ce produit doit être jeté aux points de collecte prévus à cet effet et recyclé conformément à la législation de votre pays, afin de réduire l'impact sur l'environnement. Lorsque vous jetez ce produit, veuillez contacter un distributeur ou une société affiliée de votre pays.

Les adresses des distributeurs sont répertoriées sur le site Web EIZO ci-dessous.

www.eizoglobal.com

Pour les clients en Suisse, veuillez consulter le site Web suivant afin d'obtenir des informations sur le recyclage.

www.swico.ch

Información sobre reciclaje

Este producto debe desecharse y reciclarse según la legislación del país para reducir el impacto medioambiental.

Cuando desee deshacerse de este producto, póngase en contacto con un distribuidor o una filial de su país.

Encontrará las direcciones de contacto en el sitio web de EIZO que se indica a continuación.

www.eizoglobal.com

Informazioni sul riciclaggio

Per lo smaltimento e il riciclaggio del presente prodotto, attenersi alle normative vigenti nel proprio paese per ridurre l'impatto ambientale. Per lo smaltimento, rivolgersi ad un distributore o un affiliato presenti nel proprio paese.

Gli indirizzi sono elencati nel sito Web EIZO riportato di seguito.

www.eizoglobal.com

Per informazioni sul riciclaggio per i clienti in Svizzera, consultare il sito Web riportato di seguito.

www.swico.ch

Återvinningsinformation

När denna produkt kasseras ska den hanteras och återvinnas enligt landets föreskrifter för att reducera miljöpåverkan.

När du kasserar produkten ska du kontakta en distributör eller representant i ditt land.

Kontaktadresserna listas på EIZO-webbplatsen nedan.

www.eizoglobal.com

Πληροφορίες ανακύκλωσης

Το προϊόν αυτό, όταν απορρίπτεται, πρέπει να συλλέγεται και να ανακυκλώνεται σύμφωνα με τη νομοθεσία της χώρας σας έτσι ώστε να μην επιβαρύνει το περιβάλλον. Για να απορρίψετε το προϊόν, επικοινωνήστε με έναν αντιπρόσωπο ή μια θυγατρική εταιρεία στη χώρα σας.

Οι διευθύνσεις επικοινωνίας αναγράφονται στην τοποθεσία web της EIZO παρακάτω.

www.eizoglobal.com

Сведения по утилизации

По истечении срока службы данного продукта его следует принести на сборный пункт и утилизировать в соответствии с действующими предписаниями в вашей стране, чтобы уменьшить вредное воздействие на окружающую среду. Прежде чем выбросить данный продукт, обратитесь к дистрибьютору или в местное представительство компании в вашей стране.

Контактные адреса можно найти на веб-узле EIZO.

www.eizoglobal.com

Informatie over recycling

Wanneer u dit product wilt weggooien, moet het uit milieu-overwegingen worden verzameld en gerecycled volgens de betreffende wetgeving van uw land. Wanneer u dit product wilt weggooien, moet u contact opnemen met een distributeur of een partner in uw land.

De contactadressen worden vermeld op de volgende EIZO-website.

www.eizoglobal.com

Informação sobre reciclagem

Este produto, quando o deitar fora, deve ser recolhido e reciclado de acordo com a legislação do seu país para reduzir a poluição. Quando deitar fora este produto, contacte um distribuidor ou uma filial no seu país.

Os endereços de contacto estão listados no website do EIZO, abaixo.

www.eizoglobal.com

Oplysninger om genbrug

Dette produkt forventes ved bortskaffelse at blive indsamlet og genbrugt i overensstemmelse med lovgivningen i dit land for at reducere belastningen af miljøet. Når du bortskaffer denne produkt, skal du kontakte en distributør eller et tilknyttet selskab i dit land.

Adresserne på kontaktpersonerne er angivet på EIZO's websted nedenfor.

www.eizoglobal.com

Kierrätystä koskevia tietoja

Tuote tulee hävittää kierrättämällä maan lainsäädännön mukaisesti ympäristön kuormittumisen vähentämiseksi. Kun hävität tuotteen, ota yhteyttä jälleenmyyjään tai tytäryhtiöön maassasi.

Yhteystiedot löytyvät EIZOn Internet-sivustolta.

www.eizoglobal.com

Wykorzystanie surowców wtórnych

Ten produkt po zużyciu powinien być zbierany i przetwarzany zgodnie z krajowymi przepisami dotyczącymi ochrony środowiska. Wyrzucając ten produkt, należy skontaktować się z lokalnym dystrybutorem lub partnerem. Adresy kontaktowe można znaleźć we wskazanej poniżej witrynie internetowej firmy EIZO.

www.eizoglobal.com

Informace o recyklaci

Při likvidaci produktu musí být produkt vyzvednut a recyklován podle zákonů příslušné země, aby nedocházelo k zatěžování životního prostředí. Zbavujete-li se produktu, kontaktujte distributora nebo pobočku ve své zemi. Kontaktní adresy jsou uvedeny na následující webové stránce společnosti EIZO.

www.eizoglobal.com

Ringlussevõtu alane teave

Keskkonnakoormuse vähendamiseks tuleks kasutatud tooted kokku koguda ja võtta ringlusse vastavalt teie riigi seadustele. Kui kõrvaldate käesoleva toote, võtke palun ühendust turustaja või filiaaliga oma riigis.

Kontaktisikud on toodud EIZO veebilehel järgmisel aadressil:

www.eizoglobal.com

Újrahasznosítási információ

Jelen terméket, amikor eldobjuk, az illető ország törvényei alapján kell összegyűjteni és újrahasznosítani, hogy csökkentjük a környezet terhelését. Amikor ezt a terméket eldobja, kérjük lépjen kapcsolatba egy országon belüli forgalmazóval vagy társvállalkozással.

A kapcsolat címei az EIZO alábbi weboldalán található felsorolva:

www.eizoglobal.com

Podatki o recikliranju

Ob koncu uporabe odslužen izdelek izročite na zbirno mesto za recikliranje v skladu z okoljevarstveno zakonodajo vaše države. Prosimo, da se pri odstranjevanju izdelka obrnete na lokalnega distributerja ali podružnico.

Kontaktni naslovi so objavljeni na spodaj navedenih spletnih straneh EIZO:

www.eizoglobal.com

Informácie o recyklácii

Pri likvidácii musí byť tento výrobok recyklovaný v súlade s legislatívou vašej krajiny, aby sa znížilo zaťaženie životného prostredia. Keď sa chcete zbaviť tohto výrobku, kontaktujte prosím distribútora alebo pobočku vo vašej krajine.

Zoznam kontaktných adries je uvedený na nasledovnej webovej stránke firmy EIZO:

www.eizoglobal.com

Pārstrādes informācija

Utilizējot šo produktu, tā savākšana un pārstrāde veicama atbilstoši jūsu valsts likumdošanas prasībām attiecībā uz slodzes uz vidi samazināšanu. Lai veiktu šī produkta utilizāciju, sazinieties ar izplatītāju vai pārstāvniecību jūsu valstī.

Kontaktadreses ir norādītas zemāk minētajā EIZO tīmekļa vietnē.

www.eizoglobal.com

Informacija apie gražinamąjį perdirbimą

Šalinant (išmetant) šiuos gaminius juos reikia surinkti ir perdirbti gražinamuoju būdu pagal jūsų šalies teisės aktus, siekiant sumažinti aplinkos teršimą. Kai reikia išmesti šį gaminį, kreipkitės į jūsų šalyje veikiančią gaminių pardavimo atstovybę arba jos filialą.

Kontaktiniai adresatai nurodyti EIZO interneto svetainėje.

www.eizoglobal.com

Информация относно рециклиране

При изхвърлянето на този продукт се предлага събирането и рециклирането му съобразно законите на вашата страна за да се намали замърсяването на околната среда. Когато искате да се освободите от този продукт, моля свържете се с търговския му представител или със съответните органи отговарящи за това във вашата страна.

Данните за връзка с нас са описани на следния Интернет сайт на EIZO:

www.eizoglobal.com

Informație referitoare la reciclare

Acest produs, când debarasat, trebuie colectat și reciclat conform legislației țării respective ca să reducem sarcina mediului. Când se debarasează de acest produs, vă rugăm să contactați un distribuitor sau un afiliat al țării respective.

Adresele de contact le găsiți pe pagina de web al EIZO:

www.eizoglobal.com

معلومات عن اعادة التدوير

عند التخلص من هذا المنتج، من الضروري تجميعه واعادة تدويره وفقاً للقوانين المتبعة في بلدك لتقليل العبء المسلط على البيئة. عندما تتخلص من هذا المنتج، يرجى الاتصال بموزع أو طرف منتسب إليه في بلدك. عناوين الاتصال مدرجة في موقع ايزو EIZO ادناه على شبكة الانترنت.

www.eizoglobal.com

Gerı Dönüşüm Bilgisi

Bu ürünün, atılacağı zaman, ülkenizin çevre kirliliğinin azaltılması konusundaki mevzuatına göre toplanması ve yeniden değerlendirilmesi gerekmektedir. Ürünü atacağınız zaman lütfen ülkenizdeki bir distribütör veya ilgili kuruluşla temasa geçiniz.

İrtibat adresleri aşağıdaki EIZO web sitesinde verilmiştir.

www.eizoglobal.com



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