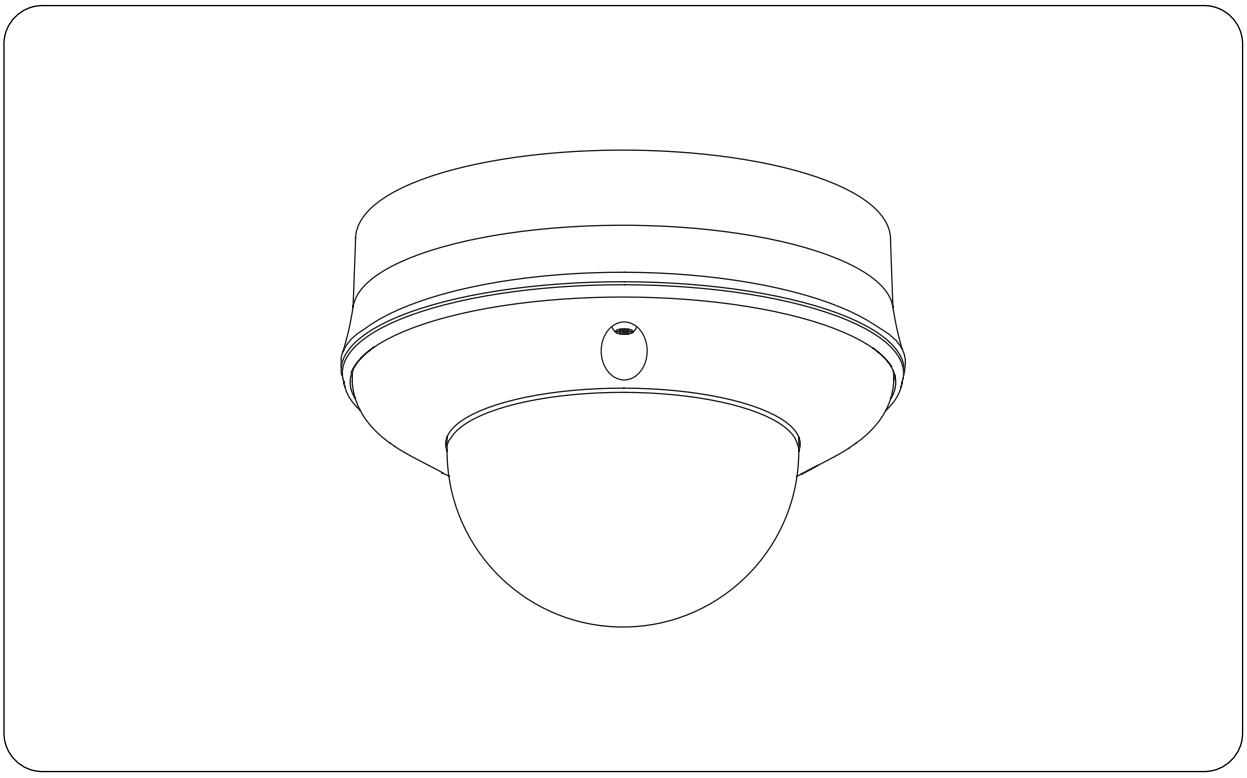
INSTRUCTION MANUAL

VANDAL RESISTANT DAY/NIGHT IR CAMERA C-CV854R-3 CU



Thank you for purchasing TOA Vandal Resistant Day/Night IR Camera.
Please carefully follow the instructions in this manual to ensure long, trouble-free use of your equipment.

TOA Corporation

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1. SAFETY PRECAUTIONS

- Before installation or use, be sure to carefully read all the instructions in this section for correct and safe operation.
- Make sure to observe the instructions in this manual as the conventions of safety symbols and messages regarded as very important precautions are included.
- We also recommend you keep this instruction manual handy for future reference.

Safety Symbol and Message Conventions

Safety symbols and messages described below are used in this manual to prevent bodily injury and property damage which could result from mishandling. Before operating your product, read this manual first and understand the safety symbols and messages so you are thoroughly aware of the potential safety hazards.

⚠ WARNING Do not leave the unit upside-down where it could be exposed to the rain or elements. Water in the unit may cause shorts that could result in fire or electrical shock.

⚠ WARNING Indicates a potentially hazardous situation which, if mishandled, could result in death or serious personal injury.

- Do not touch the camera with wet hands. Installing or setting the camera with wet hands may result in electrical shock.
- Use the unit only with the voltage specified on the unit. Using a voltage higher than that which is specified may result in fire or electric shock.
- Use screws that are appropriate for the ceiling's or wall's structure and composition. Failure to do so may cause the unit to fall, resulting in material damage and possible personal injury.
- Ensure that all screws and fixing mechanism are securely tightened. If they are not tightened or firmly secured after installation, the unit could fall down, possibly resulting in personal injury.
- Install the unit only in a location that can structurally support the weight of the unit and the mounting bracket. Doing otherwise may result in the unit falling down and causing personal injury and/or property damage.
- Avoid installing the unit in locations exposed to sea breeze or corrosive gas. The unit or its mounts may be subject to corrosion, that might cause it to fall or result in other accidents.
- If any of the following irregularities occurs, immediately turn off the power supply, and inform the shop from where the unit was purchased. Further using the unit may result in fire or electric shock.
  - · If you detect smoke or a strange smell coming from the unit.
  - · If water or any metallic object gets into the unit.
  - · If the unit falls, or the unit case breaks.
  - · If the power supply cord is damaged (exposure of the core, disconnection, etc.)
  - · If it is malfunctioning (no image appears.)
- To prevent a fire or electric shock, never open nor remove the unit case as there are high voltage components inside the unit. Refer all servicing to qualified service personnel.
- Do not mount the unit in locations exposed to constant vibration. The mounting screws and/or bolts may be loosened by excessive vibration, potentially causing the unit to fall, which could result in personal injury.
- To prevent lightning strikes, install the unit at least five meters away from a lightning rod, and yet within the protective range (angle of 45°) of the lightning conductor. Lightning strikes may cause a fire, electric shock or personal injury.
- Do not insert nor drop metallic objects or flammable materials in the ventilation slots of the unit's cover, as this may result in fire or electric shock.

⚠ CAUTION Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.

- Leave the installation of the unit to your TOA dealer because the installation requires expert experience and skills. The unit may fall off if incorrectly installed, resulting in possible personal injury.
- Do not stand or sit on, nor hang down from the unit as this may cause it to fall down or drop, resulting in personal injury and/or property damage.
- Have the unit checked periodically by the shop from where it was purchased. Failure to do so may result in corrosion or damage to the unit that could cause it to fall, possibly causing personal injury.
- Switch off the power for safety purposes when cleaning or leaving the unit unused for 10 days or more. Doing otherwise may cause a fire or electric shock.

CU version complies with Part 15 of the FCC Rules.

Note
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

Modifications
Any modifications made to this device that are not approved by TOA Corporation may void the authority granted to the user by the FCC to operate this equipment.

2. HANDLING PRECAUTIONS

- Do not direct the camera lens to the sun, strong lighting, or reflected light. If strong light enters the lens, this may cause the CCD's internal color filter to deteriorate, leading to image discoloration.
- Do not give the camera a great shock or vibration to avoid camera damage.
- It is recommended that the camera be always used in locations where the ambient temperature ranges from −10°C to +50°C (14°F to 122°F) and humidity levels of less than 90% to ensure that no condensation is formed.
- To clean, wipe with a dry soft cloth. Never use benzene, thinner or chemically processed towel as the camera's plastic or other parts may be deformed or discolored.
- When dust has settled on the unit's lens, lightly clean using a commercial camera blower or cleaning paper.
- Installing the camera cables in close proximity to fluorescent lamps or other electrical appliances can downgrade the picture quality. In such cases, change the wiring.
- If there is a strong electric or magnetic field near the camera, such as television transmission antennas, motors or transformers, this may distort or roll the monitor picture. In such cases, run the entire wiring route through metal conduit tubing.
- Do not install the unit in locations where solvents or chemicals are used as the unit's dome cover may be deformed or discolored.
- When operating on 12 V DC, use the external power supply rated at 12 V DC and over 1.0 A.
- Since the Day/Night camera features sealed construction, condensation can build up inside the camera, causing the inside of the dome cover to fog. Ensure that the camera is installed under low humidity conditions.
- Avoid installing the Day/Night IR camera in locations exposed to cold air or close to an air-conditioner outlet vent, as the dome cover may become fogged.

3. GENERAL DESCRIPTION

The C-CV854R-3 is Vandal Resistant Day/Night IR Camera equipped with a Day/Night function. It functions as a color camera (day mode) in bright locations and as a high-sensitivity black & white camera (night mode) in dark locations. Since the camera's built-in infrared LED illuminator lights in night mode, video surveillance is possible even in no light conditions, allowing the camera to be used for around-the-clock surveillance. Noise reduction function enables low noise, clear images to be viewed even under poor lighting conditions. Its dust-proof and waterproof (IP66) construction permits it to be mounted to an outdoor wall or ceiling without using a special device. Since the camera unit is constructed of die-cast aluminum alloy and its dome section is made of polycarbonate, it ensures high resistance to strong impacts. It features a 3-axis (horizontal, vertical and rotation) adjustment mechanism and a 3x varifocal lens which facilitate adjustment of camera orientation and view angle at the time of installation.
The power is supplied from 24 V AC or 12 V DC external power source. The use of an optional heater unit allows the C-CV854R-3 to be used at ambient temperatures as low as −30°C (−22°F.)

4. FEATURES

- **Built-in 3x Varifocal Lens**
  Owing to a built-in auto iris 3x varifocal lens (f=3 - 9 mm), the angle of view can be adjusted.

- **Adjustment Switch**
  The infrared camera is equipped with an adjustment switch that facilitates the manual adjustment of lens focus. Turning on this switch forcibly makes the depth of field shallow, allowing finer focus adjustment.

- **Day & Night Mode**
  By mechanically inserting and extracting the infrared block filter, the camera can function as a color camera (day mode) in bright locations and as a high-sensitivity black & white camera (night mode) in dark locations. The camera switches from day mode to night mode at a brightness level of approximately 2 lx, while night mode switches to day mode at approximately 10 lx. There is a standby time of approximately 5 seconds before the mode switches in order to prevent malfunctions resulting form momentary changes in brightness (such as headlights).

- **Internal Infrared LED Illuminator**
  The internal infrared LED illuminator lights in night mode and allows subjects to be viewed even in environments where no lighting equipment is installed. The infrared LED's irradiation distance is as follows;
  Indoor irradiation distance: Approx. 18 m (59.06 ft.)
  Outdoor irradiation distance: Approx. 15 m (49.21 ft.) (High-sensitivity switch OFF)

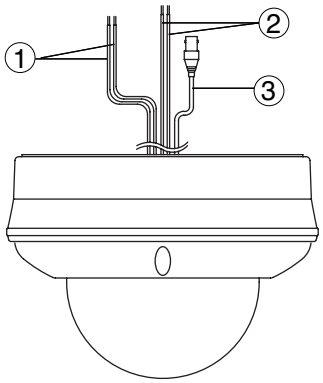
- **Noise Reduction**
  Since the camera is equipped with noise reduction circuitry, it can pick up images with less noise even in low-light scenes. Also, the camera's reduced noise permits video recording to be more efficiently performed using a digital video recorder.

- **Backlight Compensation**
  This function reduces the darkening of subject images due to backlighting.

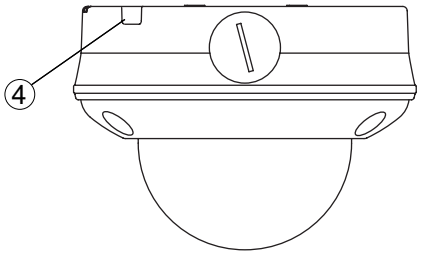
- **White Balance**
  Selection can be made of either automatic tracking white balance (ATW), which automatically adjusts the camera's white balance as the subject's color temperature changes, or automatic white balance (AWB), which keeps the white balance at the adjusted level.

- **High-Sensitivity Function (Slow-Speed Shutter)**
  The camera's automatic gain control (AGC) operates when images become dark. However, if the image remains dark, the camera's high-sensitivity function works to obtain a brighter image. This is done by extending the light exposure time during which the electrical charge is stored in the image pickup device. (After-image blurs may be produced by quickly moving subjects.)

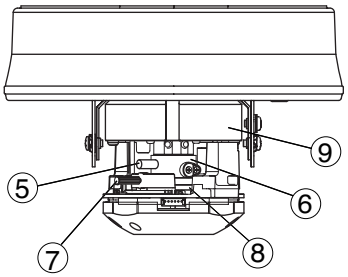
5. NOMENCLATURE



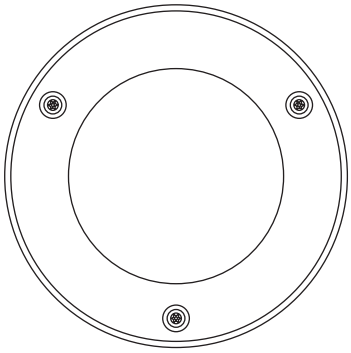
[Side view with a dome cover attached]



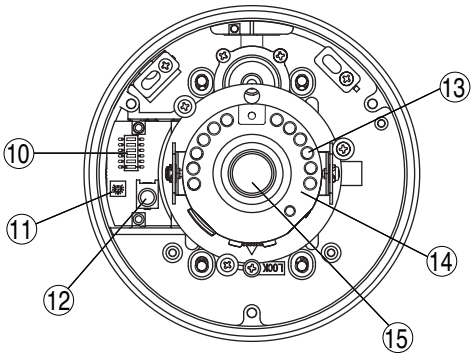
[Side view with a dome cover detached]



[Bottom view with a dome cover attached]



[Bottom view with a dome cover detached]



(1) Camera power input cable (Red, Black) (24 V AC or 12 V DC)
(2) Heater power input cable (White, White) (24 V AC)
(3) Video output terminal (cable with BNC)
(4) Safety wire fixing hole (M4)
(5) Zoom ring fixing screw
(6) Zoom ring
(7) Focus ring fixing screw
(8) Focus ring
(9) Lens cover
(10) Mode setting switch
(11) Iris control
(12) Monitor output terminal (RCA pin jack)
(13) Infrared LED
(14) Shield ring
(15) Varifocal lens

6. INSTALLATION

Notes

- Do not remove the protective sheet attached to the dome cover until installation work is completed. Damage to the dome cover could result if the protective sheet is removed during installation.
- A safety wire for connecting between the unit and ceiling is not supplied. Hook a safety wire for the unit itself to the safety wire-fixing hole (M4, useful thread depth = 6 mm (0.24")) as needed.
- Wrap self-adhesive insulation tape around coaxial cable connections and the power supply lead.

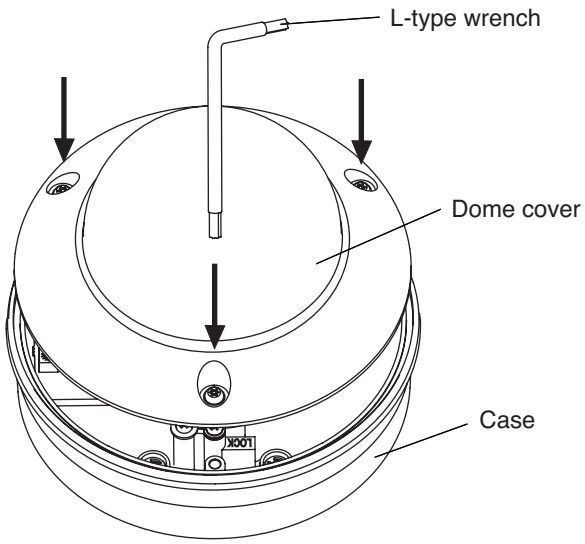
6.1. Detaching a Dome Cover

1. Detach the dome cover from the case.

   Remove three screws fixing the dome cover with a supplied L-type wrench.

   Notes

   - The dome cover is connected to the case by a safety wire.
   - You may find that an O-ring placed into the groove of the dome cover is about to come off when detaching the dome cover. In such cases, replace the O-ring into the groove securely.



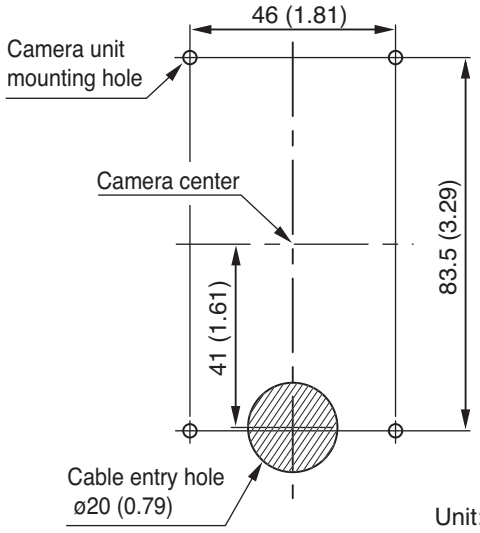
6.2. Installing a Camera

6.2.1. Unexposed wiring

1. Make a cable entry hole as shown at right in the ceiling or wall.

   Note

   When mounting the camera to a wall, make sure the cable entry hole is positioned below the camera center.



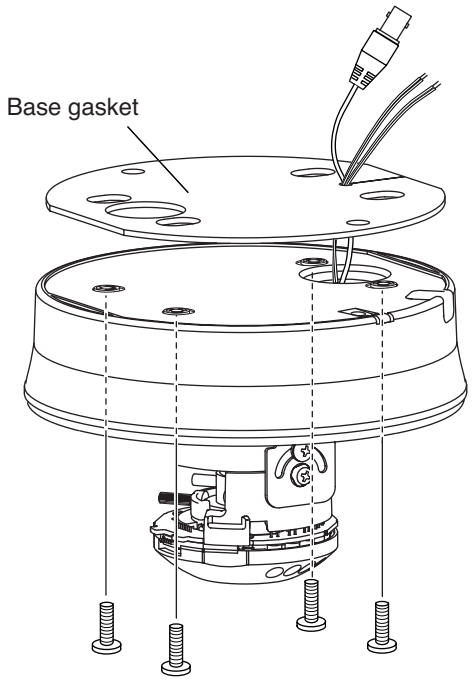
Unit: mm (inch)

2. Connect a coaxial cable to the camera's BNC output terminal.

   When operating on 24 V AC or 12 V DC, connect the power cable wires to the camera power input cable (Red, Black).

3. Fix the camera unit to the ceiling or wall using the four mounting screws.

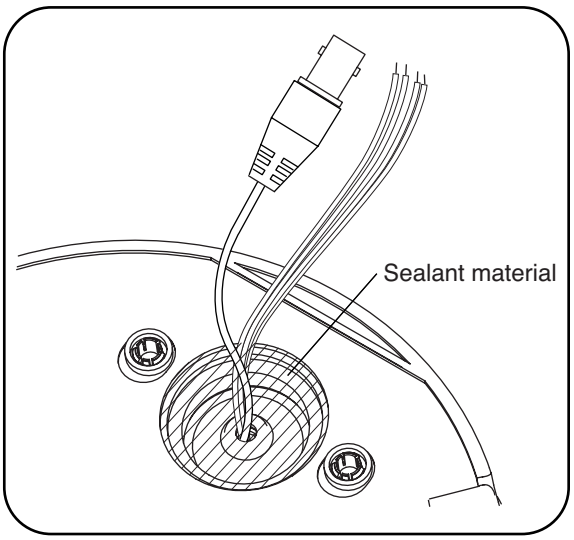
   Attach the supplied base gasket to the camera unit, then install the camera unit to the ceiling or wall. Since no mounting screws are supplied with the camera, prepare them separately depending on the situation. (Use screws that are over 4 mm (0.16") in nominal diameter and longer than 25 mm (1").)



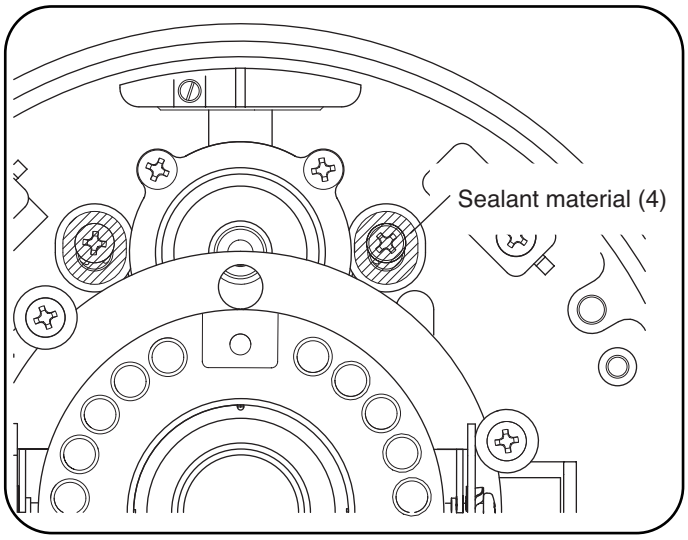
Note

The cable trench and four camera mounting holes must be protected with silicone sealant material to prevent rainwater from leaking into the enclosure. Do not waterproof other holes.

[Cable trench]



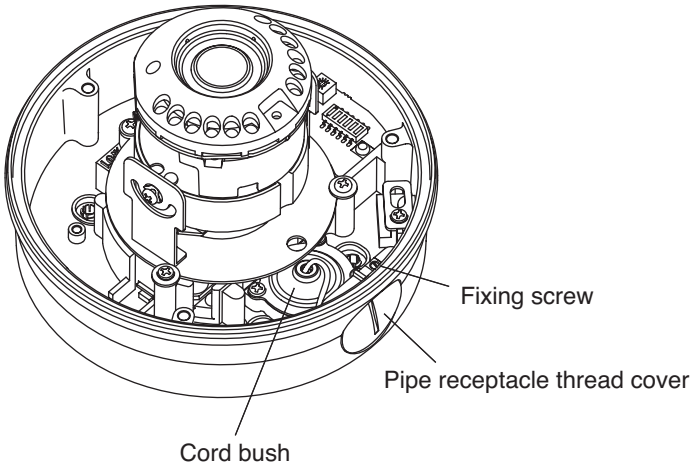
[Camera mounting holes]



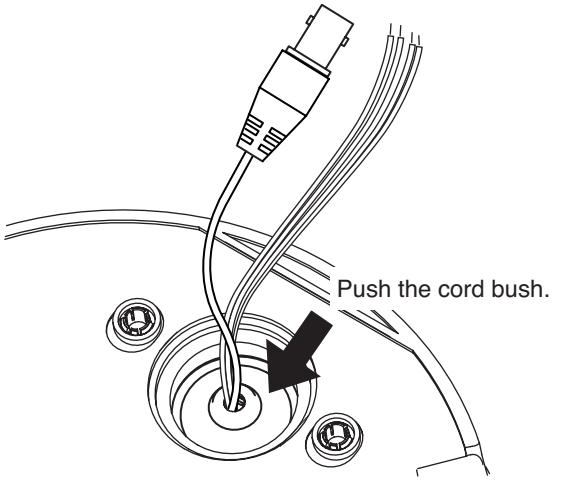
6.2.2. Open wiring from the camera's side

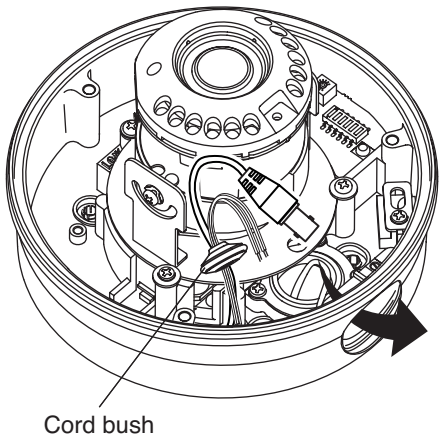
Note: The pipe receptacle thread on the camera's side is compatible with 3/4-inch threaded conduit.

1. Loosen the fixing screw with a standard driver, then detach the camera side-attached pipe receptacle thread cover.



2. Push in the cord bush attached to the camera unit from the back to pull out from the case. Run the cable and lead it out from the camera pipe receptacle thread hole.

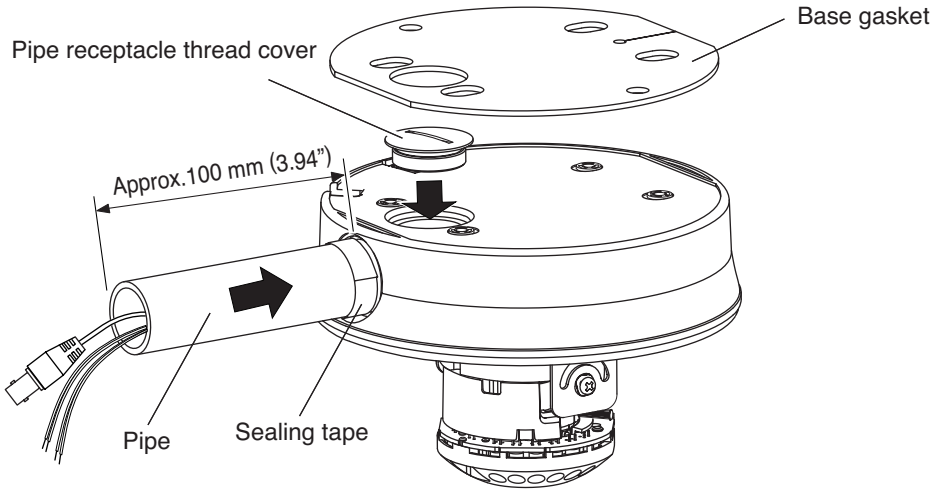




3. Attach the removed pipe receptacle thread cover to the threaded section at the upper surface of the camera unit.

4. Wrap two or more layers of sealing tape around the pipe's threaded section, then screw the pipe into the camera's threaded receptacle.

   Sealing tape must be wrapped around the pipe's threaded part. The pipe to be used must be approximately 100 mm (3.94") in length.



5. Connect a coaxial cable to the camera's BNC output terminal. When operating on 24 V AC or 12 V DC, connect the power cable wires to the camera power input cable (Red, Black).

6. Fix the camera unit to the ceiling or wall using the four mounting screws.

   Attach the supplied base gasket to the camera unit, then install the camera to the ceiling or wall. Since no mounting screws are supplied with the camera, prepare them separately depending on the situation. (Use screws that are over 4 mm (0.16") in nominal diameter and longer than 25 mm (1").) Further, join the pipe mounted to the camera to the pipe coming out of the device to be connected using a coupling. When installing the camera unit to a wall, install the camera unit so that its pipe faces down.

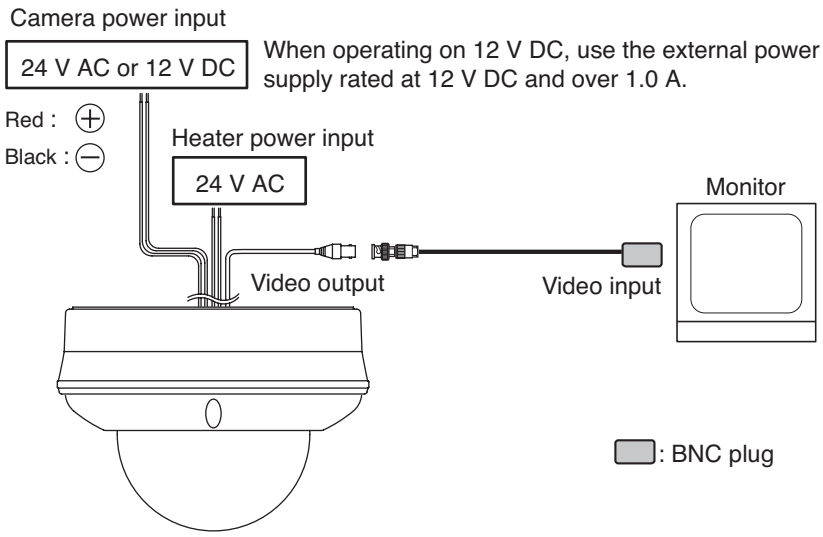
   Note
   The 4 camera mounting holes must be protected with silicone sealant material to protect rainwater from leaking into the enclosure.

7. Replace the dome cover.

   Note
   Check that the safety wire and wires are not pinched between the dome cover and the case, as doing so may degrade the performance of the water-proof and dust-proof.

7. CONNECTION

Note: If the Video output is not terminated at 75 Ω, camera images are not properly displayed. Make sure that the output has been terminated at 75 Ω at the connected monitor or switcher.



8. ADJUSTMENT

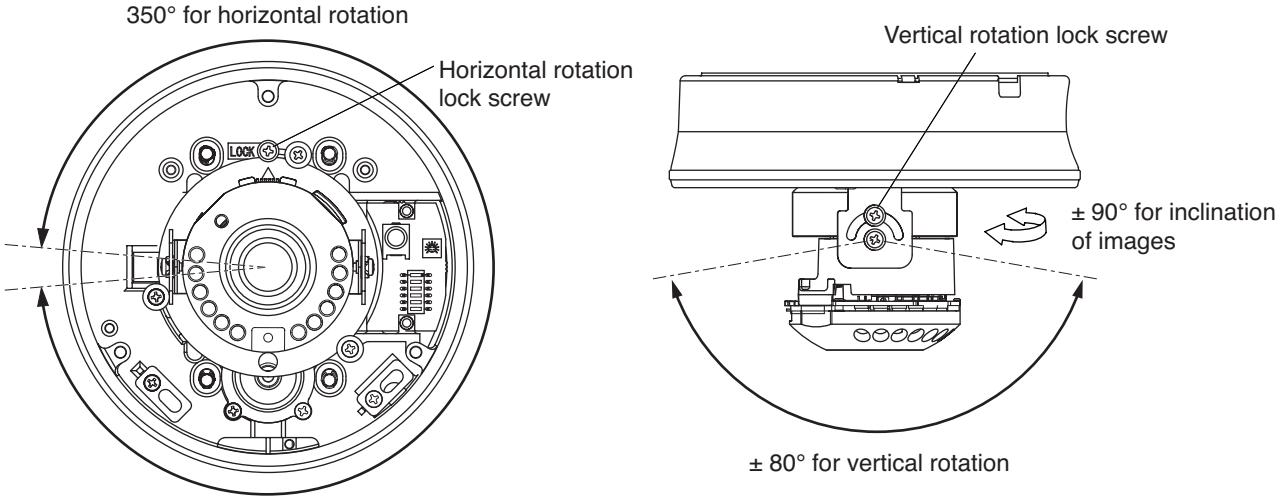
1. Switch on the power supply after completing camera connections. The power is supplied to the camera.

2. Connect the monitor to the Monitor Output terminal to permit a camera view to be viewed on the monitor.

3. Shift the Flickerless switch to 1/100 if light flicker is annoying.
   Light flicker may interfere with the view under fluorescent lamps in the area where power frequency is 50 Hz. In such cases, shift the Flickerless switch to "1/100" position, and the image free from flickering can be obtained.

   Note
   If the Flickerless switch is set to the 1/100 position, sensitivity is reduced compared to operation in the 1/60 position. When using the camera in a dark location, or where light flicker is not an annoyance, shift the switch to the 1/60 position.

4. Adjust the camera angle.
   Camera angle can be adjusted for up to 350° (± 175°) for horizontal rotation and up to 160° (± 80°) for vertical rotation, and inclination of image up to 180° (± 90°). To adjust horizontal rotation and vertical rotation, loosen each rotation lock screw.



   After angle adjustment completion, tighten both the horizontal and vertical rotation lock screws.

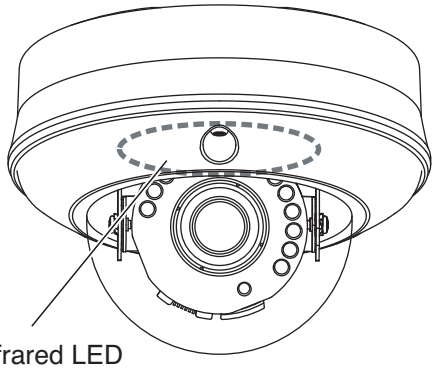
5. Adjust the angle of view with the Zoom ring and the focus with the Focus ring for the best possible picture reproduction.
   After lens adjustment completion, tighten both the Zoom ring fixing screw and the Focus ring fixing screw.

   Notes
   - Since the Iris control (for sensitivity adjustment) is factory-preset to an optimum position for general use, avoid tampering with it in normal conditions. Turning the control unnecessarily could cause reduced picture quality or equipment failure.
     When the Iris control needs to be readjusted to match a specific subject, first set both the Adjustment switch and the Backlight Compensation switch to the OFF position, then adjust the control to an optimum level. After adjustment, cover the lens with your hand for several seconds and then release to check the lens for correct iris operation.
   - If the focus is adjusted when the subject is bright, the subject may go out of focus when it grows dark. To avoid this, adjust the lens focus after setting the Focus adjustment switch to the ON position. Be sure to switch it back to the OFF position after completing lens adjustment.
   - The camera may experience fluctuations between color and black-and-white modes when used in dark locations with infrared illuminators, incandescent lights, halogen lights or other strong sources of infrared light other than the camera's internal infrared LED illuminator. In such cases, adjust to reduce the amount of infrared light detected by changing the angle of the infrared illuminator, halogen light, incandescent light, etc.

- The camera can also fluctuate between color and black-and-white modes when its distance relative to the subject area is short (approximately 2 meters (6.56 ft) or less). In such cases, install the camera as far away as possible from the subject area.
- When a blue subject occupies most of the screen, difficulty could be experienced in switching from black-and-white to color mode. In such cases, try to change the camera's view angle to reduce the ratio of blue in the screen.
- Turning the Iris control toward the "L" position may cause the camera not to switch to black-and-white mode smoothly.
- When the camera is switched to night mode with its lens set to the widest angle, slight vignetting (i.e. whitish areas) may be produced at the four corners of the image. This is not a defect. However, if this vignetting is an annoyance, adjust the lens to a viewing angle that is set slightly back from the wide angle limit.

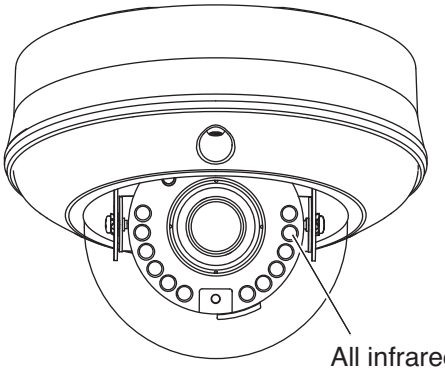
6. After lens orientation is determined, attach the dome cover and ensure that all LED illuminators are visible from the outside. When the lens is rotated during viewing angle adjustment, etc., some of the infrared LED illuminators may be hidden behind the dome cover. If the camera is used in this condition, sufficient amount of light from the infrared illuminators cannot be obtained. In such cases, detach the dome cover and rotate the LED circuit board while holding the lens cover by hand. (The LED circuit board can be rotated up to approximately 310 degrees.)

Incorrect (Disable)



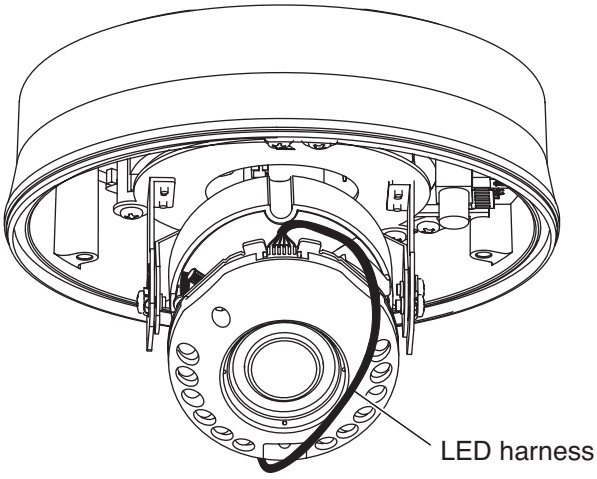
Part of infrared LED illuminators hidden.

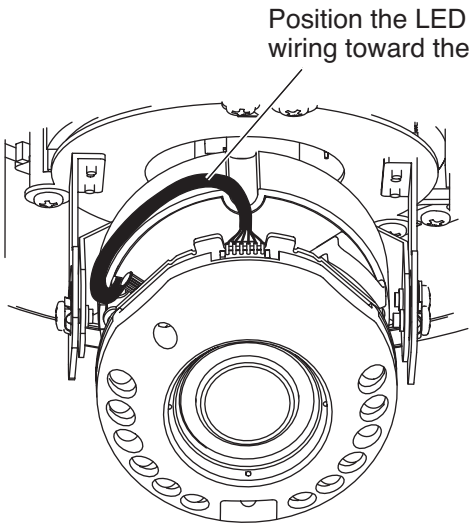
Correct (Enable)



All infrared LED illuminators exposed and visible.

When rotating the LED circuit board, the LED harness may interfere with the infrared LED illuminators and light shielding ring. In such cases, push the LED harness into the camera so that it is located behind the LED circuit board.



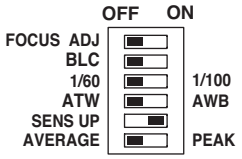


7. After all adjustments are completed, attach the dome cover to the camera case.

Note
Check that the safety wire and wires are not pinched between the dome cover and the case, as doing so may degrade the performance of the water-proof and dust-proof.

9. ABOUT THE MODE SETTING SWITCH

Set each switch to the position that provides the best picture reproduction.

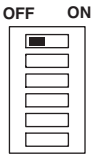


Mode Setting Switch
(Factory-preset setting)

1: Focus adjustment switch
2: Backlight compensation switch
3: Flickerless switch
4: ATW/AWB selection switch
5: High-Sensitivity (slow speed shutter) switch
6: Average/Peak selection switch

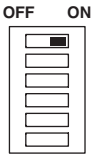
9.1. Focus Adjustment Switch:

Set to the "ON" position when adjusting focus. (This setting provides the same effect as when using an ND filter.)



Standard:

After focus adjustment completion, set the switch to the "OFF" position. Normally set to this position.



Adjustment (during adjustment):

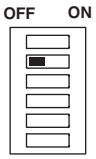
Used when adjusting the lens focus. Turning on this switch forcibly makes the depth of field shallow, allowing finer focus adjustment. Set this switch to the OFF position after lens adjustment completion.

Note

When the Focus adjustment switch is set to the "ON" position, the color of the screen may change periodically if the camera is used under fluorescent lighting. Further, the screen may flicker in areas where the electrical frequency is 50 Hz.

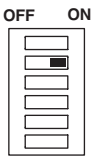
9.2. Backlight Compensation Switch:

Set to the "ON" position to avoid making the subject too dark when it is backlit.



Standard:

Normally set to this position. Backlight Compensation function does not operate when the switch is set to this position.

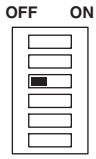


Backlight Compensation(when backlit):

This position compensates images from being become too dark when it is backlit. Controls image brightness depending on the brightness of the subject in the center of the screen when set to the backlight compensation position.

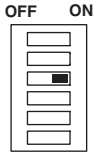
9.3. Flickerless Switch:

Set this switch to the “1/100” position when annoying screen image flicker is detected.



1/60:

Normally set to this position.



1/100:

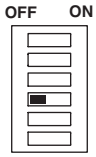
Annoying screen flicker may result under fluorescent lighting in areas where power frequency is 50 Hz. In such cases, set the Flickerless switch to "1/100" position to permit a flicker-free picture to be viewed.

Note

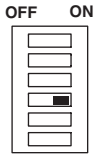
If the Flickerless switch is set to the "1/100" position, sensitivity is reduced compared to operation in the “1/60” position. When using the camera in dark conditions, or where light flicker is not an annoyance, set the switch to "1/60" position.

9.4. ATW/AWB Selection Switch:

Sets the white balance operation.



ATW: Normally set to this position. Automatically adjusts the camera white balance when the subject's color temperature changes.



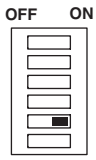
AWB: Set the switch to AWB when a single-color subject occupies most of the screen and the difference between the on-screen color and the actual color is annoying, or when the subject's fluctuating color temperature causes annoying changes in color balance. Setting the switch to AWB allows the subject to be displayed in the set white balance, even if the subject's color temperature changes.

Note

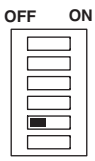
Set the switch to AWB when a single-color subject occupies most of the screen and the difference between the on-screen color and the actual color is annoying, or when the subject's fluctuating color temperature causes annoying changes in color balance. Setting the switch to AWB allows the subject to be displayed in the set white balance, even if the subject's color temperature changes.

9.5. High-Sensitivity Switch:

Set for automatic increases in sensitivity in dark conditions.



ON: Normally set to this position. High-sensitivity function (slow-speed shutter) increases the sensitivity up to eightfold in dark conditions.



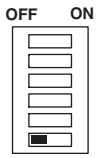
OFF: When after-image blurs of fast moving subjects in dark conditions create an annoyance, set the switch to the OFF position. Also set the switch to OFF when night mode over-exposure of the subject is annoying.

Note

Since the high-sensitivity function is operated by extending the light exposure time during which the electrical charge is stored in the image pickup device, after-image blurs may be produced by quickly moving.

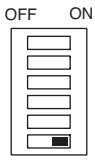
9.6. Average/Peak Selection Switch:

Set this switch when night mode subject over-exposure is annoying.



Average:

Normally set to this position.



Peak: When in night mode, the camera's infrared light could make the over-exposure of nearby subjects annoying. In such cases, set the Average/Peak Selection switch to the Peak position to lighten the over-exposure condition.

10. TROUBLESHOOTING

Symptom	Possible Cause	Remedy
No camera image displayed on the monitor.	Monitor TV's power is not switched ON.	Switch on the main power.
	Cables are not correctly connected.	Connect the cables correctly.
Camera image is not clear.	Camera lens does not focus properly.	Focus the lens.
	The lens or dome cover is dirty.	Remove dirt on the lens or dome cover.
	Image black level of the monitor is not correctly adjusted.	Adjust focus correctly.
he color of the camera image changes periodically.	The Focus adjustment switch is set to "ON."	Turn the Focus adjustment switch of the Mode setting switch to "OFF."
The screen flickers even when the Flickerless switch is set to "1/100."	The Focus adjustment switch is set to "ON."	Turn the Focus adjustment switch of the Mode setting switch to "OFF."
When in night mode, the LED infrared light mixes with the on-screen display.	The shield ring around the lens is detached or moved from its original position.	Set the shield ring correctly.
	The dome cover is dirty.	When dust has settled on the dome cover, lightly clean using a commercial camera blower or cleaning paper.
Subject images are dark at night.	LED illuminators hidden by case.	Rotate the LED illuminators so that they are visible in the transparent dome cover.
After image appears when the subject becomes dark at night.	Check the position of the camera's High-sensitivity switch.	Turn the High-sensitivity to "OFF" if the after image is annoying and distracting.

11. SPECIFICATIONS

Model Number	C-CV854R-3 CU
Power Source	For camera: 24 V AC, 50/60 Hz or 12 V DC For heater: 24 V AC, 50/60 Hz
Power Consumption	4 W (300 mA, maximum. current: 800 mA)
Image Device	1/3 type IT-CCD
Number of Effective Pixels	768 (H) x 494 (V), 380,000 pixels
Scanning System	2:1 interlace
Scanning Frequency	Horizontal: 15.734 kHz, Vertical: 59.94 Hz
Monitor Output	VBS1.0 V(p-p), 75 Ω, RCA pin jack
Video Output	VBS1.0 V(p-p), 75 Ω, BNC-R jack
Synchronizing System	Internal synchronization
Resolution (at center)	Horizontal: 540 lines (standard), Vertical: 350 lines
S/N Ratio	50 dB
Minimum Illumination (Flickerless: OFF)	0.5 lx (50 IRE, color, High-sensitivity switch OFF), 0.2 lx (20 IRE, color, High-sensitivity switch OFF), 0 lx (night mode)
Threshold Illumination for Mode Switching	Color-to-B/W mode: Approx. 2 lx, B/W-to-color mode: Approx. 10 lx (incandescent lamp)
White Balance Mode	ATW/AWB (switch selection)
Focal Length	f = 3.0 mm - 9.0 mm
Maximum Aperture Ratio	1 : 1.4 - 2.4
Iris	Auto iris
Angle of View	Horizontal: 90.3° - 31.9°, Vertical: 66.4° - 23.9°, diagonal: 115.4° - 39.8°
Infrared LED's Illumination Range	Indoor: Approx. 18 m (59.06 ft) (High-sensitivity switch OFF), Approx. 25 m (82.02 ft) (High-sensitivity switch ON) Outdoor: Approx. 15 m (49.21 ft) (High-sensitivity switch OFF), Approx. 25 m (82.02 ft) (High-sensitivity switch ON)
Functions	Backlight compensation, Flickerless function, Iris control, Max. 8x Sensitivity increase (auto/off), Noise reduction (24-hours), Day/Night mode (auto selector), Adjustment switch: ON/OFF (used for focus adjustment)
Water/Dust Protection	IP66
Operating Temperature	−10 ºC to + 50 ºC (14 ºF to 122 ºF) (When an optional heater unit is attached: −30 °C to + 50 °C (−22 °F to +122°F))
Operating Humidity	90 % RH or less (no condensation)
Applications	Outdoor/Indoor use
Finish	Case, bezel: Die-cast Aluminum, light gray, paint Dome cover: PC resin (transparent)
Dimensions	ø154.2 x 110 (H) mm (ø6.07" x 4.33" (H)) (excluding the cables)
Weight	1.2 kg (2.65 lb)

The design and specifications are subject to change without notice for improvement.

• **Accessories**

L-type wrench 1
Base gasket 1

• **Optional Products**

Flush ceiling mounting bracket: C-BC850U
Wall mounting bracket: C-BC850W
Heater unit: C-A854H
Pole mounting bracket: C-BC450PM
Mounting band: YS-60B

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