

COLOR CAMERA

C-CV102-CS CU

Thank you for purchasing TOA's Color Camera.

Please carefully follow the instructions in this manual in order to ensure long, trouble-free use of your color dome camera.

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.

WARNING

Do not expose the unit to rain or an environment where it may be splashed by water or other liquids, as doing so may result in fire or electric shock.

WARNING

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

- 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.
- 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.
- Do not install the unit outdoors since it is designed for indoor use. If installed outdoors, the aging of parts causes the unit to fall down, possibly resulting in personal injury. Also, when it is exposed to rain, an electric shock may result.
- To prevent a fire or electric shock, never open the unit case nor modify the unit as there are high voltage components inside the unit. Refer all servicing to your nearest TOA dealer.
- Should any of the following irregularity be found during use, disconnect the power supply and contact your TOA dealer. Do not attempt to further use the unit because a fire or electric shock may result.
 - 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 no image appears
- 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.
- Have the unit periodically checked by the dealer from where it was purchased. Should the unit or its mounts corrode or structurally deteriorate, the unit could fall down, possibly resulting in personal injury.

CAUTION

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

- Avoid installing the unit in humid or dusty locations, in locations exposed to the direct sunlight, near the heaters, or in locations generating sooty smoke or steam as doing otherwise may result in fire or electric shock.
- Note correct polarity (positive and negative orientation) when connecting the power supply cable. Incorrect connection may cause failure of other equipment connected.
- Leave the installation of the unit to your TOA dealer because the installation requires expert experience and skills. If the unit falls, this could cause personal injuries.
- Do not hang down from the camera as this may cause it to fall down or drop, resulting in personal injury and/ or property damage.
- Disconnect the power supply, and unplug the power supply plug from the AC outlet for the safety purposes when cleaning or leaving the unit unused for long periods of time. 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.

This Class B digital apparatus compliance with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

This device complies with Part 15 of the FCC Rules. Operation 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.

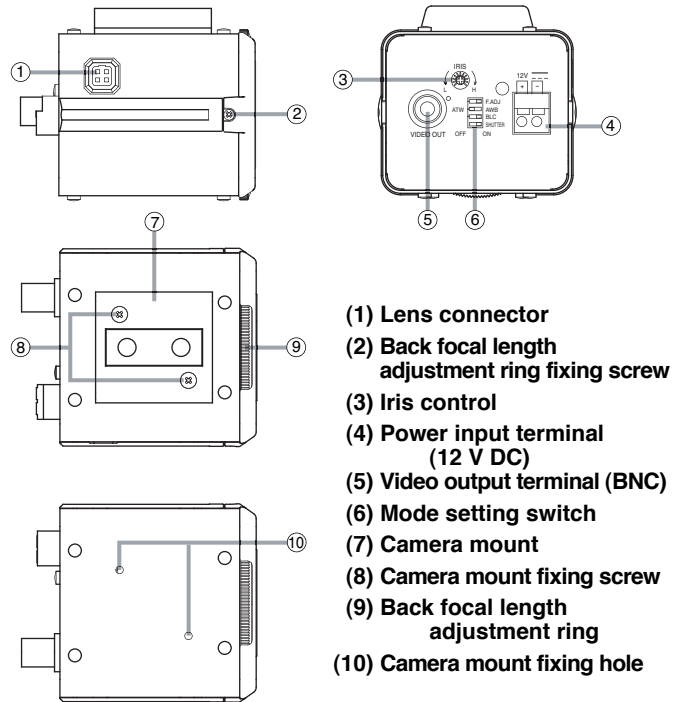
2. GENERAL DESCRIPTION

The C-CV102-CS Color Camera is a high-resolution surveillance camera equipped with a 1/4" CCD. It is designed to operate on 12 V DC, which is supplied by an external power supply unit. The CS mount permits the optional lens that is the most appropriate for each application to be selected.

3. HANDLING PRECAUTIONS

- Do not direct the camera lens to the sun or strong lighting or light reflection.
- Do not give the camera a great shocks or vibration, as this will damage the camera.
- It is recommended that the camera be always used in locations where the ambient temperature ranges from -10°C to +50°C 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 unit's plastic or other parts may be deformed or discolored.
- When dust has settled on the camera'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.
- Use the external power supply unit of the following rating.
12 V DC, over 0.5 A

4. NOMENCLATURE

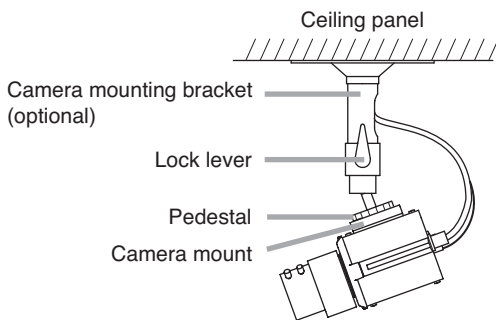


Note

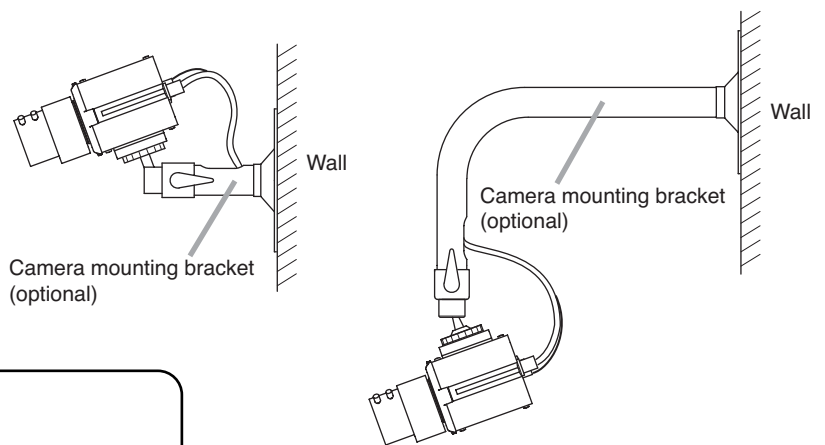
Fixing holes (10) are provided in both the top and bottom panels.

5. INSTALLATION

[Ceiling mounting example]



[Wall mounting example]



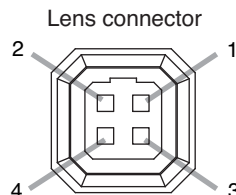
⚠ WARNING

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.

1. Attach the lens to the camera.
 - Insert the lens into the camera's lens mount and rotate to full stop.
 - Connect the connector from the lens to the lens connector.

Note

DC drive type lenses can be used, however Video type lenses cannot be used.



| Pin No. | Pin name |
|---------|----------------|
| 1 | Damping coil ⊖ |
| 2 | Damping coil ⊕ |
| 3 | Driving coil ⊕ |
| 4 | Driving coil ⊖ |

- Mount the optional camera mounting bracket to a ceiling or wall. Using an electrical box, fix the camera mounting bracket with its supplied screws. Run the coaxial cable through the hole in the bracket.
- Set the camera mounting bracket securely in the threaded hole in the camera mount rotating the bracket's pedestal.

Notes

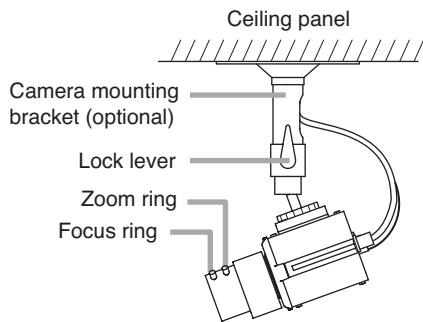
- The camera mount can be mounted to both the top and bottom of the camera. Attach the bracket to either side depending on installation conditions.
- Use the camera mount fixing screw to attach or detach the camera mount.

- Set the camera orientation, and secure the camera. After setting the camera orientation, rotate the lock lever to secure the camera.

6. ADJUSTMENT

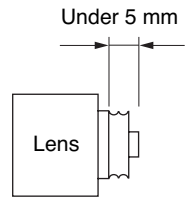
- Switch on the power supply of 12 V DC after completing camera connections. The power is supplied to the camera.
- Connect the monitor to the Video Output terminal to permit a picture to be viewed on the monitor.
- Set the Shutter Speed switch to ON if light flicker is annoying. Light flicker may interfere with the view under fluorescent lamps in the area where power frequency is 50 Hz. In such cases, set the Shutter Speed switch to "ON" position, and the image free from flickering can be obtained.

Note
If the Shutter Speed switch is set to the ON position, sensitivity is reduced compared to operation in the OFF position. When using the camera in a dark location, or where light flicker is not an annoyance, set the switch to the OFF position.
- Adjust the camera angle. Loosen the camera mounting bracket's lock lever to point the camera to the desired direction, then retighten the lock lever to fix the camera securely.
- Adjust the angle of view with the Zoom ring and adjust the focus with the Focus ring for the best possible picture reproduction.



Notes

- To avoid damaging the internal sections of the camera's lens mount, be sure that the lens flange is less than 5 mm thick as illustrated on the right.
- C-mount lenses must be used in conjunction with the Lens Mounting Adapter CF-5 (optional).

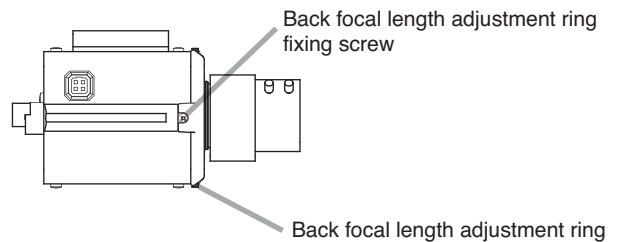


Notes

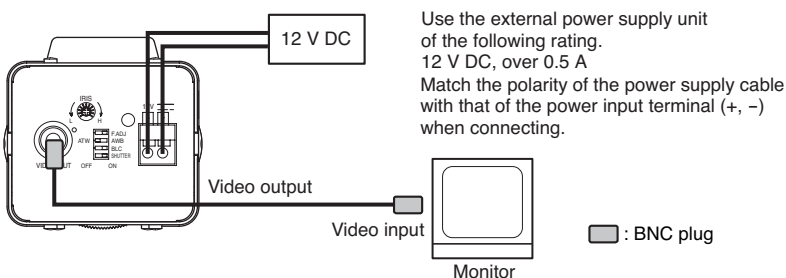
- Since the Iris control (for sensitivity adjustment) is factory-preset to an optimum position for general use, avoid tampering with it in normal conditions. Turning the control unnecessarily could cause reduced picture quality or equipment failure. When the Iris control needs to be readjusted to match 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, place a hand over the lens for several seconds and then release to check the lens for correct iris operation.
- If the focus is adjusted for a subject under good lighting conditions, the subject may go out of focus when conditions become dark. To avoid this, adjust the lens focus after setting the Adjustment switch to the ON position. Be sure to switch it back to the OFF position after completing lens adjustment.
- When a subject appears out of focus because it is closer than the lens' minimum close-up distance, adjust the focus as follows:

(Back focal length adjustment)

 - Attach the lens.
 - Loosen the Back focal length adjustment ring fixing screw.
 - Rotate the Back focal length adjustment ring to set it to an optimum position.
 - Retighten the Back focal length adjustment ring fixing screw.



7. CONNECTIONS

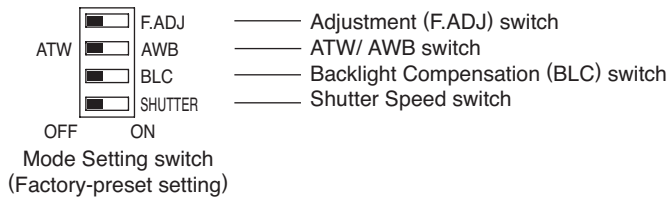


Note

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

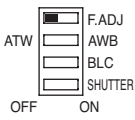
8. ABOUT THE MODE SETTING SWITCH

Set the Mode Setting switch for the best possible picture reproduction depending on installation conditions.



Adjustment (F.ADJ) switch

Set this switch when adjusting the lens focus.

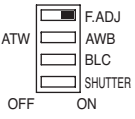


Standard position:

Set to OFF after lens adjustment completion. Set to this position during normal use.

Adjustment position (during adjustment):

Use this position when focusing the lens. If the focus is adjusted for a subject under good lighting conditions, the subject may go out of focus when conditions become dark. Set the Adjustment switch to ON only when performing focus adjustment.

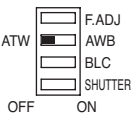


Note

The color of the screen may periodically vary under fluorescent lighting when the Adjustment switch is set to ON. Light flicker may interfere with the view in the area where power frequency is 50Hz.

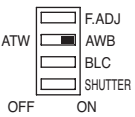
ATW/ AWB switch

Set the white balance operation.



ATW:

Set to this position during normal use. The camera's white balance automatically changes as an object's color temperature varies.

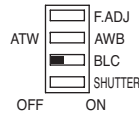


AWB:

Use this switch when the difference between the displayed color and actual color is annoying. Shoot the white object, then turn the switch ON. The camera operates on the initially-set white balance even if an object's color temperature changes.

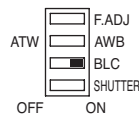
Backlight Compensation (BLC) switch

Set this switch so that the subject is not displayed in black when backlit.



Standard position:

Set to this position during normal use. Backlight Compensation function does not operate when the switch is set to this position.

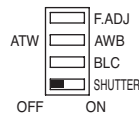


Backlight Compensation position (when backlit):

This position compensates images from being displayed in black when the image is backlit.

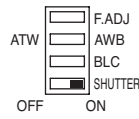
Shutter Speed switch

Set this switch to the ON position when annoying screen image flicker is detected.



Standard position:

Set to this position during normal use.



Shutter Speed position:

Annoying screen flicker may result under fluorescent lighting in areas operating with a power frequency of 50 Hz. In such cases, set the Shutter Speed switch to the ON position to permit a flicker-free picture to be viewed.

Note

If the Shutter Speed switch is set to the ON position, sensitivity is reduced compared to operation in the OFF position. When using the camera in a dark location, or where light flicker is not an annoyance, set the switch to the OFF position.

9. SPECIFICATIONS

| | |
|----------------------------|--|
| Power Source | 12 V DC \pm 10% |
| Power Consumption | 1.5 W (120 mA) |
| Image Device | 1/4 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 |
| Video Output | VBS1.0 V(p-p), 75 Ω , BNC connector |
| Synchronizing System | Internal synchronization |
| Resolution | Horizontal: 480 lines (at center) Vertical: 350 lines (at center) |
| S/ N Ratio | 50 dB |
| Minimum Illumination | 3 lx (F1.4, 50 IRE), 1 lx (F1.4, 20 IRE) |
| White Balance Mode | ATW/ AWB |

| | |
|-----------------------|--|
| Lens Mount | CS Mount |
| Auto-Iris Lens Output | DC input type (4 pin connector) |
| Adjustment Switch | ON/ OFF (used for focus adjustment) |
| Other Functions | Backlight compensation, Shutter speed (1/60, 1/100), Iris control |
| Operating Temperature | -10°C to +50°C |
| Operating Humidity | Under 90% RH (no dew condensation produced) |
| Applications | Indoor use |
| Finish | Case: Surface-treated steel plate, cool gray, paint Front cover: ABS resin, cool gray |
| Dimensions | 66.2 (w) x 63 (h) x 78.5 (d) mm |
| Weight | 250 g |

Note

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