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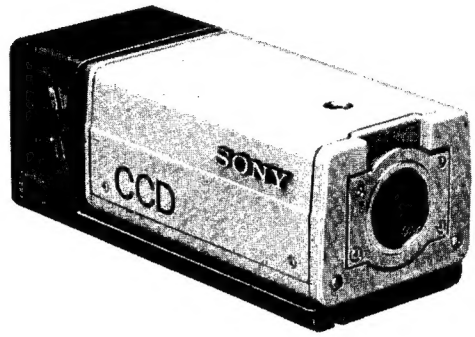
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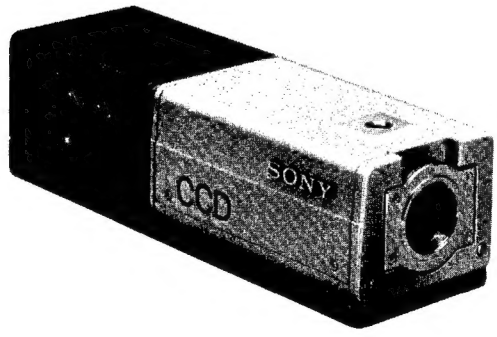
COLOR VIDEO CAMERA HEAD

DXC-101/102

DXC-101



DXC-102



SONY

SECTION 1
GENERAL DESCRIPTION

1-1. DXC-101/101P GENERAL DESCRIPTION

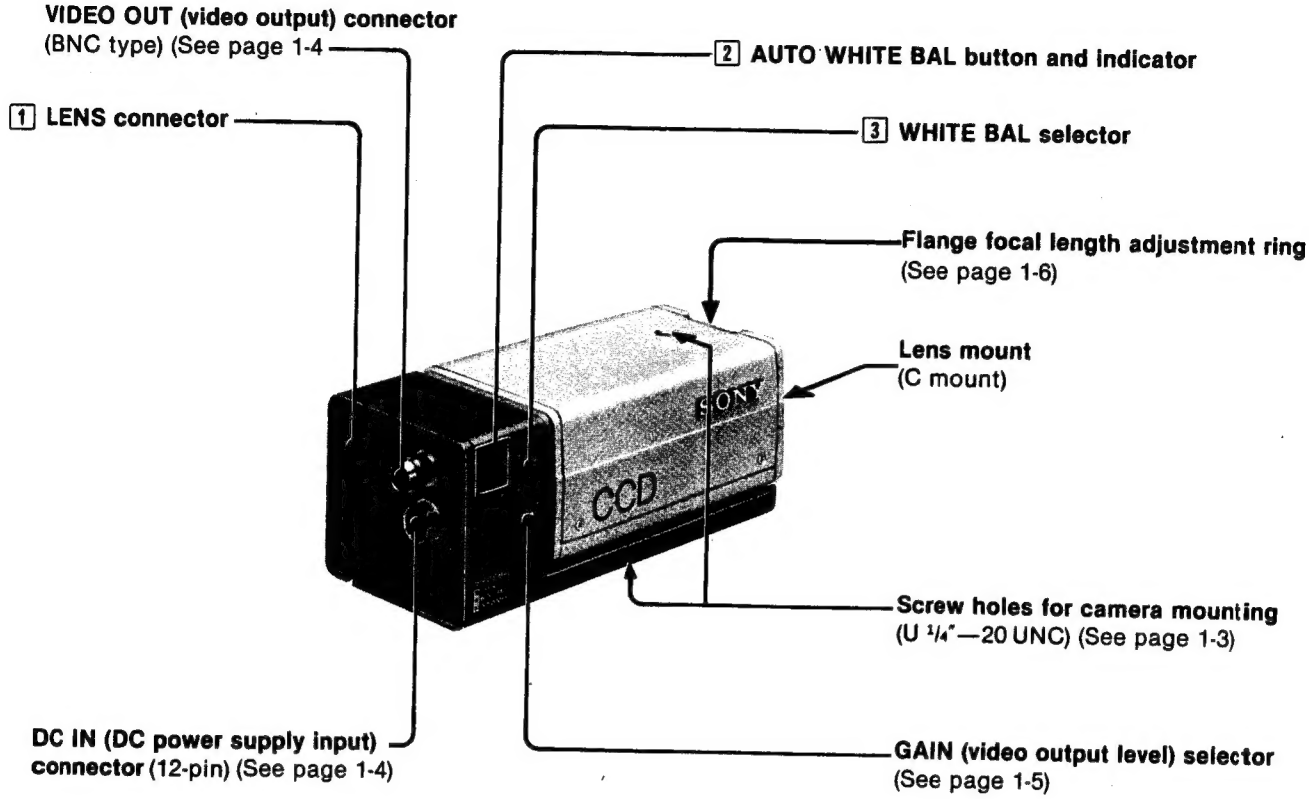
1-1-1. GENERAL FEATURES

The DXC-101/101P color video camera, designed for monitoring and surveillance, features a 1-chip CCD (Charge Coupled Device) which affords small size, light weight, and low power consumption. This CCD improves highlight after-images and color reproduction, eliminates highlight burn-in and picture distortion, and resists vibration and shock.

The camera lens mount is a C mount. Auto iris lenses such as the VCL-08Y and the VCL-16Y (optional) are available.

To use this camera for monitoring, connect a video monitor and the CMA-D1/D1CE camera adaptor (optional) to the camera. The camera can be installed on a wall or ceiling with a mounting bracket.

1-1-2. LOCATION AND FUNCTION OF PARTS



1 LENS connector (4-pin)
This connector is used when the VCL-08Y or VCL-16Y auto iris lens is used, to control the iris of the lens automatically.

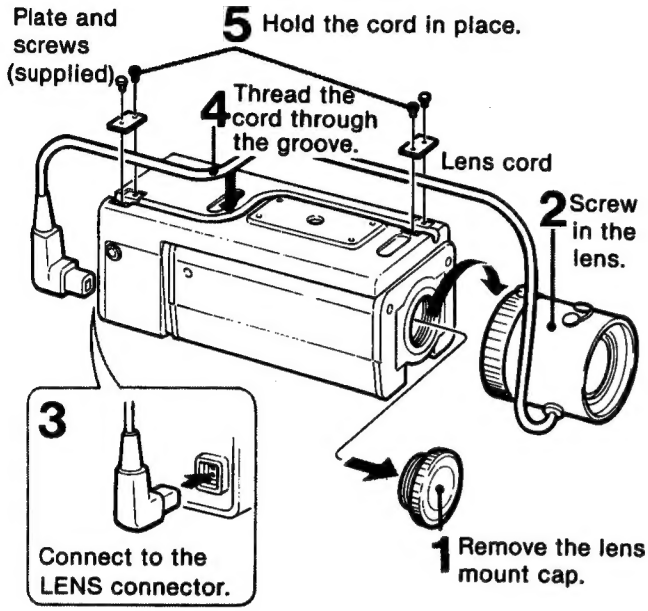
2 AUTO WHITE BAL (automatic white balance adjustment) button and indicator (green)
Press this button to adjust the white balance automatically.
When the adjustment is completed, the indicator lights up for a few seconds.

3 WHITE BAL (white balance adjustment) selector
AUTO: Set to AUTO to adjust the white balance automatically.
1, 2 or 3: Set to 1, 2 or 3 to adjust the white balance to one of the factory-preset values.
For details, refer to "WHITE BALANCE ADJUSTMENT" on page 1-5.

1-1-3. INSTALLATION

•LENS MOUNTING

Mount the lens according to the following procedure from 1 to 5.

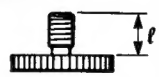


To change the lens mounting position, refer to the instruction manual of the lens.

•CAMERA INSTALLATION

To install the camera on a wall or ceiling, use a screw which matches the screw hole in the camera (U1/4" — 20 UNC), and attach the camera to a support or to a mounting bracket with the screw.

Be sure to use the screw specified below.
ISO standard: ℓ = 4.5 mm ± 0.2 mm
ASA standard: ℓ = 0.197 inches

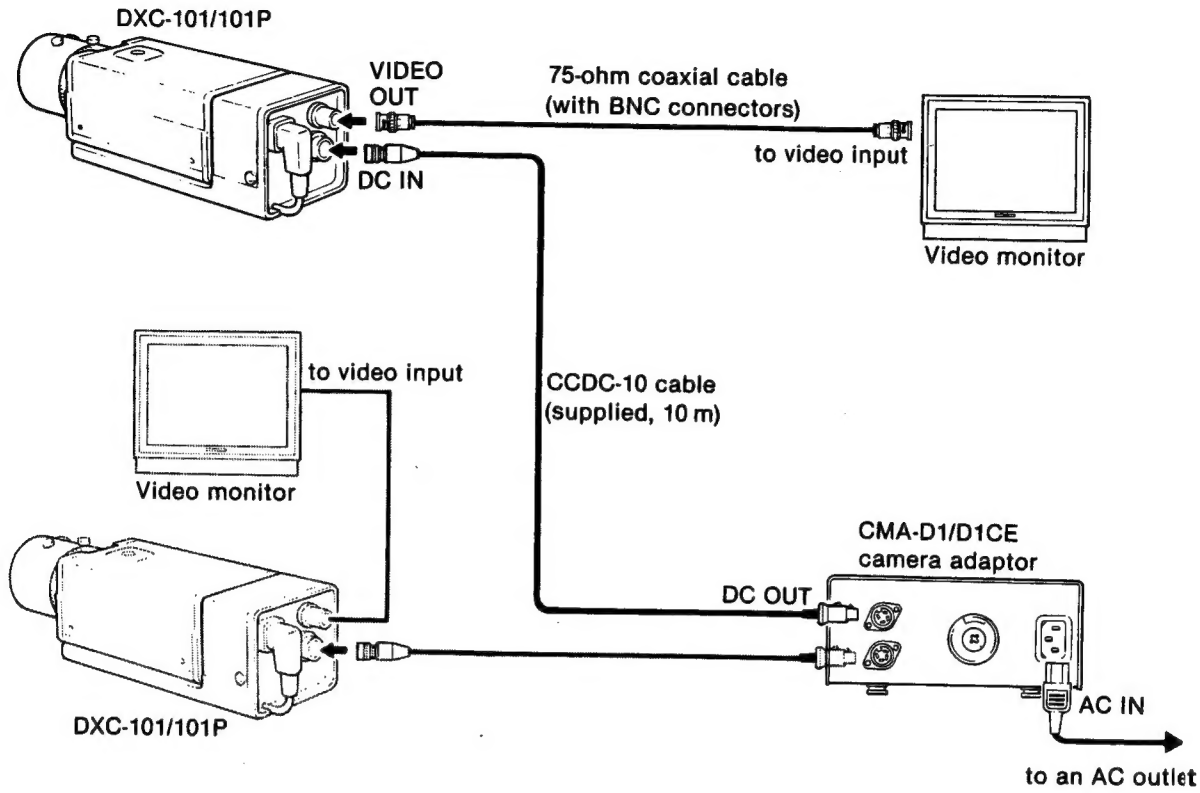


Caution on installation

Do not install the camera in a place as follows:

- Extremely hot or cold places (operating temperature: 0°C to 40°C or 32°F to 104°F).
- Where it is exposed to rain, high humidity or dust.
- Where it is subjected to very high vibration.
- Place near a TV or radio station which radiates high power radio waves.

1-1-4. CONNECTIONS



1-1-5. OPERATION

1) PREPARATION

- Check that all the units are connected properly.
- Set the POWER switch of the CMA-D1/D1CE to ON to turn on the camera.
- Turn on the video monitor, and adjust its controls properly.
- Set the GAIN selector of the camera to 0 dB.
- Illuminate the object properly.
- When a manual iris control lens is used, adjust the iris depending on the lighting conditions.

2) WHITE BALANCE ADJUSTMENT (for lifelike color reproduction)

There are two ways to adjust the white balance as described below.

To adjust the white balance to the factory-preset values
Select the position of the WHITE BAL selector depending on the lighting conditions.

Selector position	Label indication	Lighting conditions
1	3200°K (color temperature)	Iodine lamp, sunrise, sunset
2	INDOORS	Fluorescent light
3	OUTDOORS	Under a clear sky

For better color setup according to lighting conditions (Automatic white balance adjustment)
Perform the procedure described below.

1 Set the WHITE BAL selector to AUTO.
2 Shoot a white object (a white cloth or a white wall) with the camera so that the white object fills the screen.
3 Press the AUTO WHITE BAL button. When the automatic white balance adjustment is completed, the indicator lights up for a few seconds.

The white balance adjustment function may not operate in the following lighting conditions:
If the lighting is insufficient, the AUTO WHITE BAL indicator will not light up. This signifies that the white balance cannot be adjusted properly.
If the lighting is excessive, the AUTO WHITE BAL indicator will light up, even if the white balance cannot be adjusted properly. In this case, the entire monitor screen turns greenish to indicate that the white balance adjustment cannot be made properly.
In both cases, try to adjust the white balance again as follows.

When an auto iris lens is used:
When the lighting is insufficient, the white balance cannot be adjusted properly. Increase the lighting and press the AUTO WHITE BAL button again.

When a manual iris lens is used:
When the lighting is insufficient or excessive, the white balance cannot be adjusted properly. When the lighting is insufficient, open the iris or increase the lighting; when the lighting is excessive, stop down the lens. Then press the AUTO WHITE BAL button again.

Memory of the automatic white balance adjustment value
In the DXC-101/101P, a built-in memory stores the adjusted white balance value. The memorized value will be retained for about 24 hours after the power is turned off without any further power supply to the camera or until the adjustment is made again.

3) VIDEO OUTPUT LEVEL SELECTION

The video output level can be adjusted with the GAIN selector.

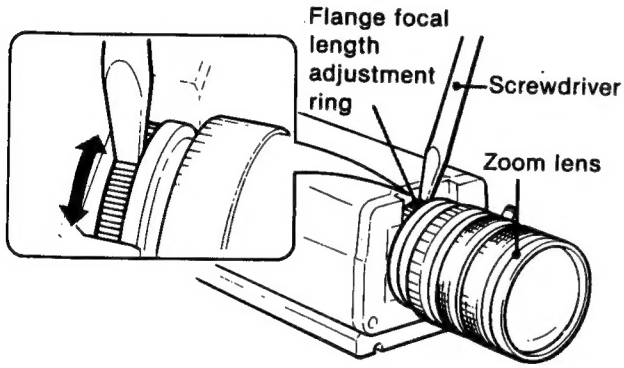
AUTO: Set the selector to this position when the brightness of objects changes as in conditions outdoors. The video output level is automatically adjusted according to the brightness of the objects.
0 dB: The selector is usually set to this position.
6 or 12 dB: The video output level can be raised by 6 dB or by 12 dB depending on the position of the selector. When the lighting is insufficient and the picture observed on the monitor is too dim, set the selector to one of these positions.

After these adjustments (white balance and video output level) are completed, shoot an object with the camera and observe the picture on the monitor screen. Then, adjust the lens focus. Once these adjustments have been completed, no further adjustments will be necessary provided that both the lighting and the distance to the object do not change. To monitor the picture again after the camera and other units have been turned off, just turn on the camera adaptor and the monitor.

1-1-6. FLANGE FOCAL LENGTH ADJUSTMENT

When a zoom lens is used with this camera, flange focal length adjustment may be required. The proper flange focal length adjustment insures that the object is in focus both at the wide-angle position and at the telephoto position when zooming. Once the flange focal length adjustment has been made, readjustment is not necessary as long as the lens stays mounted on the same camera.
Focus on an object with fine detail to adjust the flange focal length.

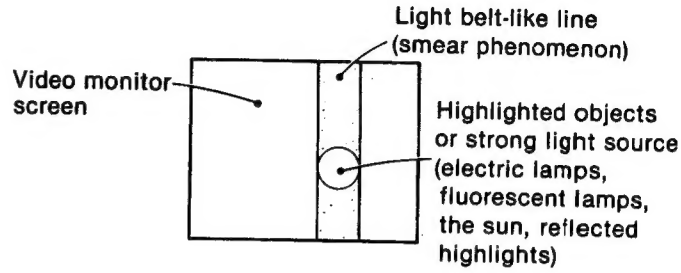
1 **When a manual iris lens is used,** set the iris fully open.
When an auto iris lens is used, illuminate an object so that the iris is fully open.
2 Point the camera at an object about 3 meters (10 feet) from the camera.
3 Set the zoom to the telephoto position.
4 Turn the focus ring to adjust the focus.
5 Set the zoom to the wide-angle position.
6 Turn the flange focal length adjustment ring of the camera until the same object is in focus. Do not turn the focus ring.



7 Repeat steps **3** to **6** until the object is in focus while the zoom is in both the telephoto position and the wide-angle position.

1-1-7. SPECIFIC EFFETS CAUSED BY CCD

Smear in picture
This may appear when a highlighted object is shot.

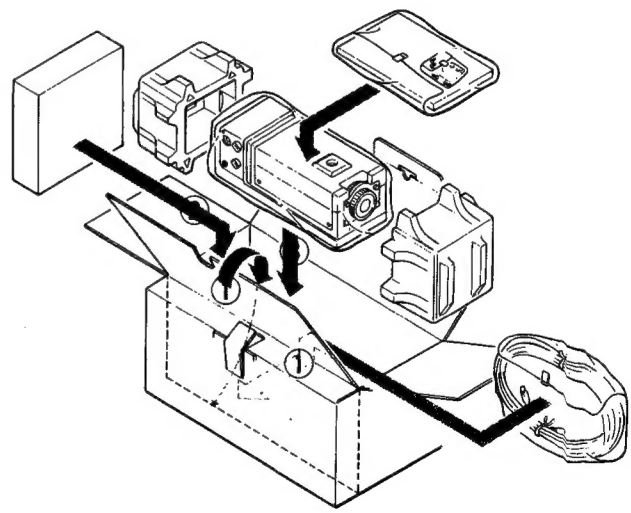


Patterned noise in picture
When the camera is used at a high temperature, a fixed patterned noise may appear on the entire screen of the monitor.

Gear-tooth effect in picture
When vertical stripes or straight lines are shot, they may look wavy.

1-1-8. REPACKING FOR SHIPMENT

The repacking procedure is subject to change. Refer to the packing instructions on the original carton, as well as those shown here.



1-2. DXC-102/102P GENERAL DESCRIPTION

1-2-1. OUTLINE

The DXC-102/102P color video camera, designed for monitoring and surveillance, features a 1-chip CCD (Charge Coupled Device) which allows the camera to be small and lightweight and have a low power consumption. This CCD reduces highlight after-images, eliminates highlight burn-in and picture distortion, improves color reproduction, and resists vibration and shock.

The camera lens mount is a C mount.

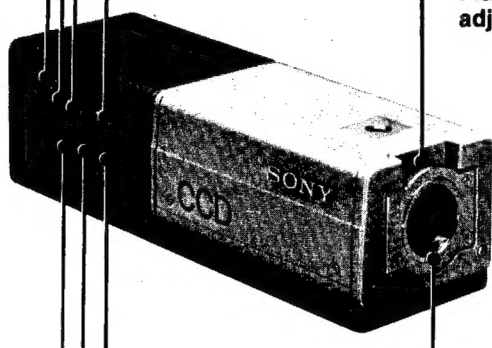
Auto iris lenses such as the VCL-08Y and the VCL-16Y (optional) are available from your authorized Sony dealer.

To use this camera for monitoring, connect a video monitor and a CMA-10/10CE camera adaptor (optional) to the camera.

The camera can be synchronized to a reference signal (VBS or BS) supplied to the camera.

The camera can be installed on a wall or ceiling with a mounting bracket.

1-2-2. LOCATION AND FUNCTION OF CONTROLS



1 AUTO WHITE BAL button and indicator (See page 1-12.)

2 WHITE BAL selector (See page 1-12.)

GAIN (video output level) selector (See page 1-13.)

Flange focal length adjustment ring (See page 1-13.)

Lens mount (C mount)

3 H PHASE control (See page 1-12.)

4 SC PHASE control (See page 1-12.)

5 SC phase selector (See page 1-12.)

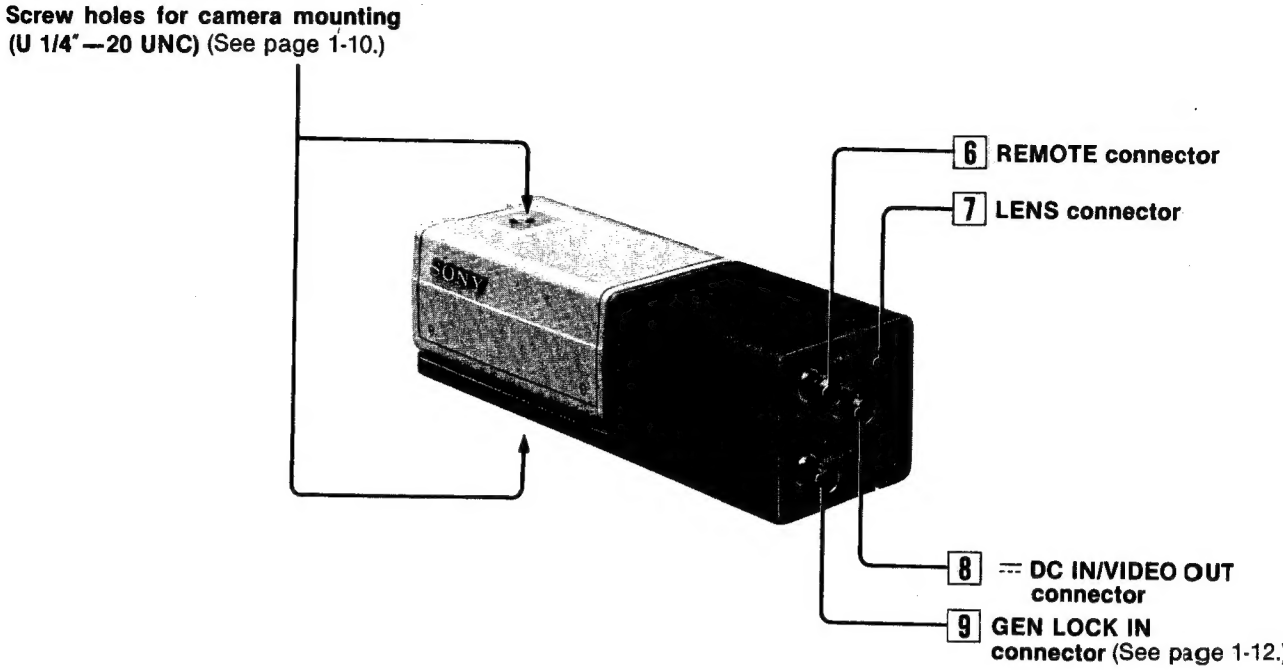
1 AUTO WHITE BAL (automatic white balance) button and indicator (green)
When the WHITE BAL selector is set to AUTO, press this button to adjust the white balance automatically. When the adjustment is completed, the indicator lights up for a few seconds.

2 WHITE BAL (white balance adjustment) selector
AUTO: Set to AUTO to adjust the white balance automatically.
1, 2 or 3: Set to 1, 2 or 3 to adjust the white balance to one of the factory-preset values.

3 H (horizontal) PHASE control
When two or more cameras are used, turn this control with a small screwdriver to adjust the H phase difference between the gen-lock input and video output signals.

4 SC (subcarrier) PHASE control
When two or more cameras are used, this control is used for fine adjustment of the subcarrier phase after making the rough adjustment with the SC phase selector 5.

5 SC (subcarrier) phase selector
When two or more cameras are used, set this selector so that the SC phase difference between the gen-lock input and video output signals to 0° or 180°



6 REMOTE (remote control) connector (BNC type)
Connect to the REMOTE connector of a CMA-10/10CE camera AC adaptor (optional), so that the white balance and the pedestal level can be adjusted by the camera AC adaptor. For details on the pedestal level adjustment, refer to the CMA-10/10CE's instruction manual.

Notes

- When the camera's REMOTE connector is connected to the CMA-10/10CE's REMOTE connector, the white balance adjustment cannot be made by the camera.
- If you wish to cancel the white balance control by the camera AC adaptor and to adjust the white balance by the camera, first turn off the camera AC adaptor, then, disconnect the cable connecting the REMOTE connectors.
  If the connecting cable is disconnected with the camera AC adaptor powered, the camera's white balance adjustment function will be inoperative. In this case, first turn off the camera AC adaptor, and after a few seconds, turn on the adaptor once again, so that the adjustment function will be operative.

7 LENS connector (4-pin)
Connect the lens connector plug of the VCL-08Y or VCL-16Y auto iris lens (optional) here. For details about the lens, refer to the lens' instruction manual.

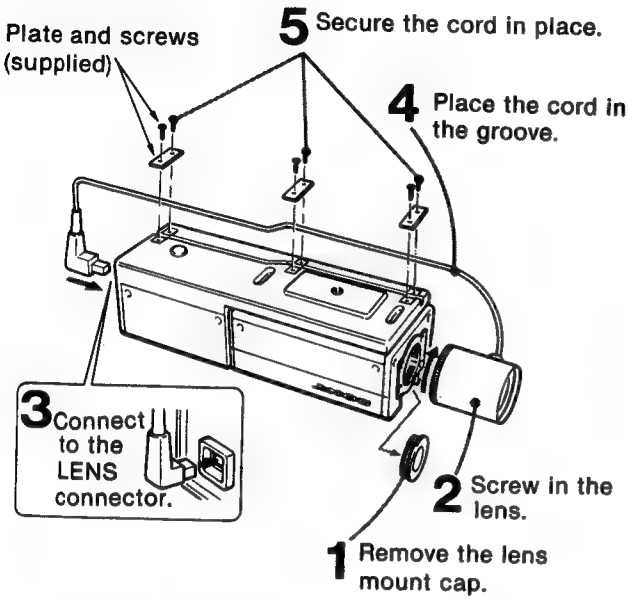
8 ⎓ DC IN (input) / VIDEO OUT (output) connector (BNC type)
Connect the ⎓ DC OUT/VIDEO IN connector of the CMA-10/10CE camera AC adaptor (optional) here. Through a single coaxial cable, the power is supplied to the camera and the video output signals from the camera are transmitted to the camera AC adaptor.

9 GEN LOCK IN (input) connector (BNC type)
Connect the gen-lock input signal (VBS or BS) for synchronization. No connection is necessary when only one camera is used.

1-2-3. INSTALLATION

•LENS ATTACHMENT

Mount the lens following Steps 1 to 5 in order.

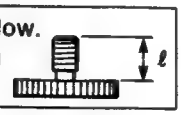


To change the position of the mounted lens, refer to the lens' instruction manual.

•CAMERA INSTALLATION

To install the camera on a wall or ceiling, attach the camera to a support or to a mounting bracket by using a screw which matches the screw holes in the camera (U 1/4"—20 UNC).

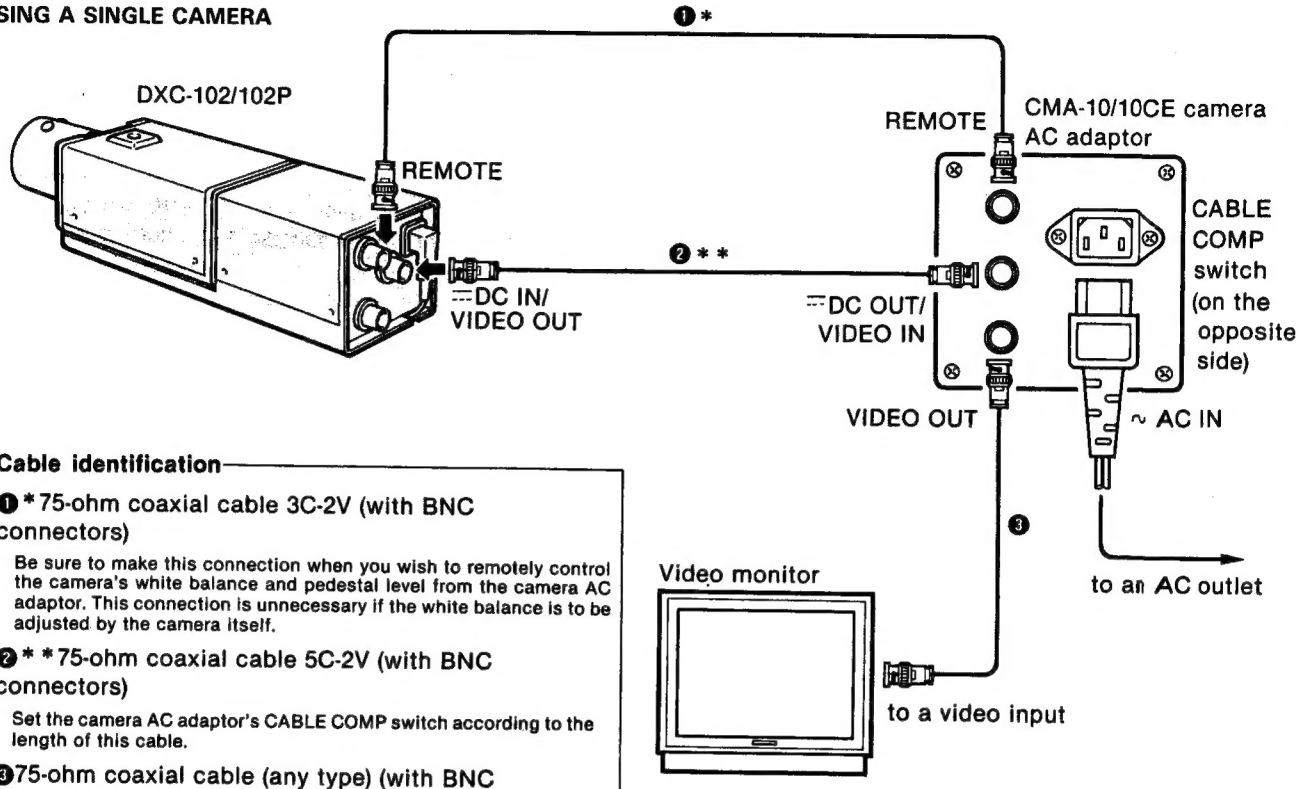
Be sure to use the screw specified below.
ISO standard: ℓ = 4.5 mm ± 0.2 mm
ASA standard: ℓ = 0.197 inches



Caution on installation
Do not install the camera in:
- An extremely hot or cold location. (Operating temperature: 0°C to 40°C or 32°F to 104°F)
- A location exposed to rain, high humidity or dust.
- A location subject to strong vibrations. (Resistance to vibration: 7G. Resistance to shock: 70G)
- A location near TV or radio station which radiates strong signals.

1-2-4. CONNECTIONS

•USING A SINGLE CAMERA



Cable identification

❶*75-ohm coaxial cable 3C-2V (with BNC connectors)

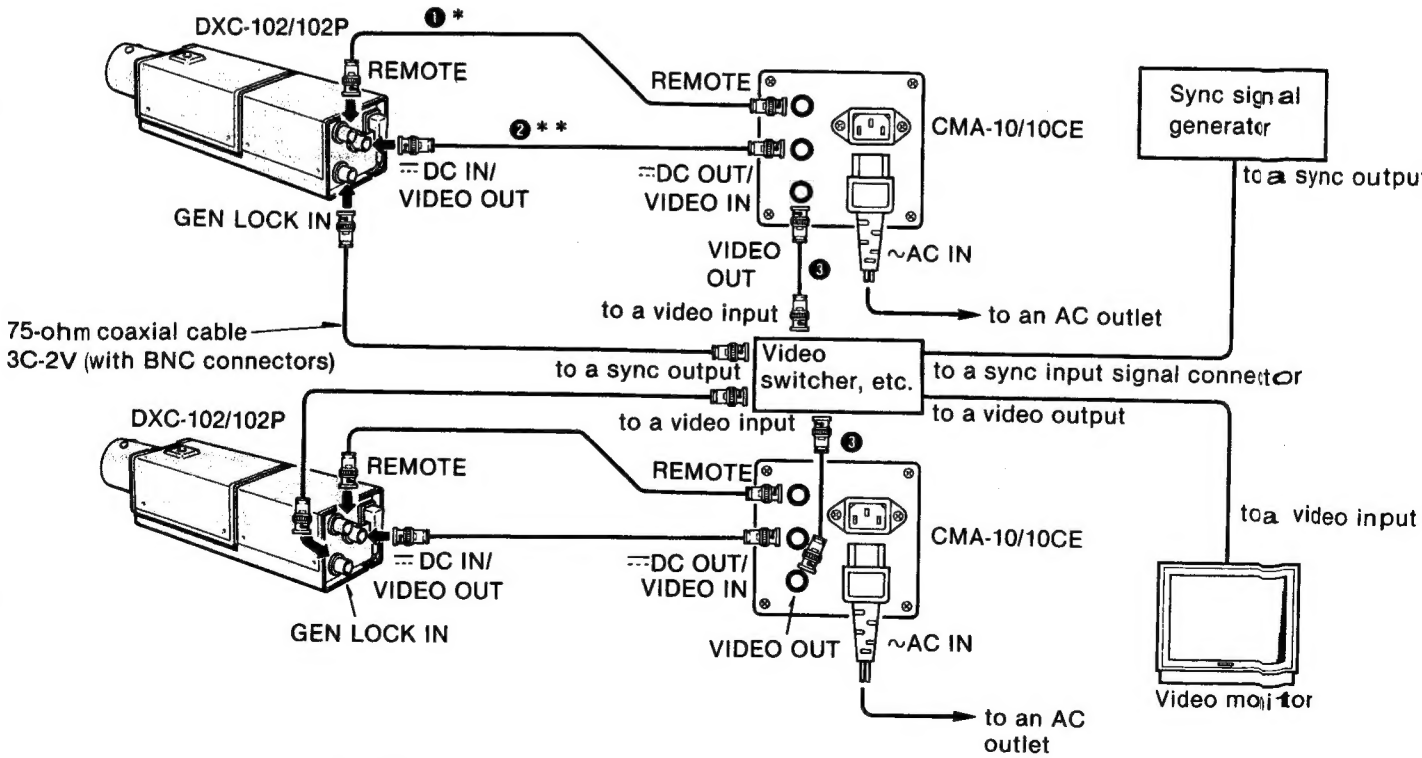
Be sure to make this connection when you wish to remotely control the camera's white balance and pedestal level from the camera AC adaptor. This connection is unnecessary if the white balance is to be adjusted by the camera itself.

❷**75-ohm coaxial cable 5C-2V (with BNC connectors)

Set the camera AC adaptor's CABLE COMP switch according to the length of this cable.

❸75-ohm coaxial cable (any type) (with BNC connectors)

•USING TWO OR MORE CAMERAS



Use of the GEN LOCK IN connector
When two or more cameras are to be used in connection with a video switcher, a special-effects generator or a similar equipment, etc., and each camera picture selected by the switcher is to be observed on the same video monitor, supply each camera with the same reference signal to obtain the same picture tone.
Connect a sync signal generator to the GEN LOCK IN connector to supply a reference signal (VBS or BS) to each camera, so that all the cameras are synchronized to this signal.

Adjustment of the picture tone for two or more cameras
When two or more cameras are used in connection with a video switcher, a special-effects generator or a similar equipment, supply each camera with a reference signal and adjust each camera to obtain the same picture tone. Adjust the SC (subcarrier) phase and the H (horizontal) phase following the procedure described below.

Subcarrier phase adjustment

Adjust the subcarrier phase roughly with the SC phase selector, then, make the fine adjustment using the SC PHASE control. A vectorscope will allow you to make the adjustment more easily.

Horizontal phase adjustment

Adjust the horizontal phase with the H PHASE control. A waveform monitor or an oscilloscope will allow you to make the adjustment more easily.

1-2-5. OPERATION

1) PREPARATION

- Check that all the units are connected properly.
- Set the POWER switch of the CMA-10/10CE to ON to turn on the camera.
- Turn on the video monitor, and adjust its controls properly.
- Set the camera's GAIN selector to 0 dB.
- Illuminate the subject properly.
- If a manual iris control lens is used, adjust the iris depending on the lighting conditions.

2) WHITE BALANCE ADJUSTMENT (for lifelike color reproduction)

There are two ways to adjust the white balance:

To adjust the white balance to the values preset at the factory
Select the position of the WHITE BAL selector depending on the lighting conditions.

Selector position	Label indication	Lighting conditions
1	3200°K (color temperature)	Iodine lamp, sunrise, sunset
2	INDOORS	Fluorescent light
3	OUTDOORS	Under a clear sky

Automatic white balance adjustment
(For the best possible color tone given under the lighting conditions)
1 Set the WHITE BAL selector to AUTO.
2 Shoot a white object (a white cloth or a white wall) with the camera so that the white object fills the screen.
3 Press the AUTO WHITE BAL button. When the automatic white balance adjustment is completed, the indicator lights up for a few seconds.

The white balance adjustment function may not operate in the following lighting conditions:
If the lighting is insufficient, the AUTO WHITE BAL indicator will not light up. This signifies that the white balance cannot be adjusted properly.
If the lighting is excessive, the AUTO WHITE BAL indicator will light up, even if the white balance cannot be adjusted properly. In this case, the entire monitor screen turns greenish to indicate that the white balance adjustment cannot be made properly.
In both cases, try to adjust the white balance again as follows.

When an auto iris lens is used:

If the lighting is insufficient, increase the lighting and press the AUTO WHITE BAL button again.

When a manual iris lens is used:

If the lighting is insufficient, open the iris or increase the lighting; if the lighting is excessive, stop down the lens. Then press the AUTO WHITE BAL button again.

Memory of the automatic white balance adjustment value

In the DXC-102/102P, a built-in memory stores the adjusted white balance value. The memorized value will be retained for about 24 hours after the power is turned off without any further power supply to the camera or until the adjustment is made again.

3) VIDEO OUTPUT LEVEL SELECTION

The video output level can be adjusted with the GAIN selector.

AUTO: Set the selector to this position when the lighting conditions are subject to change, as in conditions outdoors. The video output level is automatically adjusted according to the lighting conditions.

0 dB: Generally, set the selector to this position.

6 or 12 dB: The video output level is raised by 6 dB or by 12 dB depending on the position of the selector. When the lighting is insufficient and the picture observed on the monitor is too dim, set the selector to one of these positions.

After the white balance and video output level adjustments have been completed, shoot an object with the camera and observe the picture on the monitor screen. Then focus the lens.

Once these adjustments have been completed, no further adjustments will be necessary unless the lighting conditions and the distance to the object change. To monitor the picture again after the camera and other units have been turned off, just turn on the equipments.

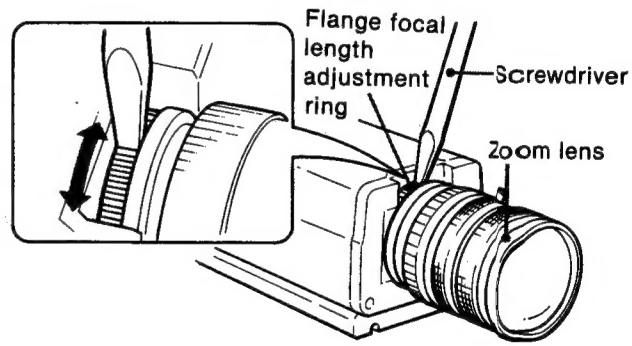
1-2-6. FRANGE FOCAL LENGTH ADJUSTMENT

When a zoom lens is used with this camera, flange focal length adjustment ensures that the object is in focus both at the wide-angle position and at the telephoto position when zooming. Once the flange focal length adjustment has been made, readjustment is unnecessary as long as the lens stays mounted on the same camera.

Focus on an object with fine detail to adjust the flange focal length.

Procedure

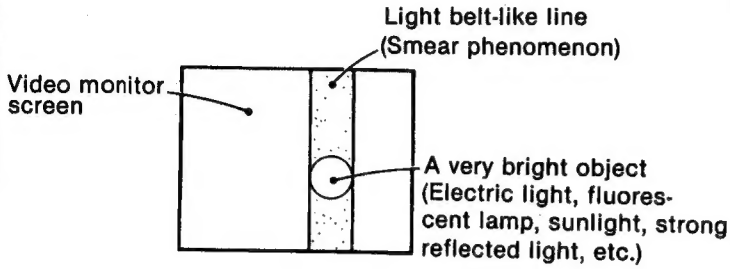
1 When a manual iris lens is used, set the iris fully open.
When an auto iris lens is used, illuminate an object so that the iris is fully open.
2 Point the camera at an object about 3 meters (10 feet) from the camera.
3 Set the zoom to the telephoto position.
4 Turn the focus ring to adjust the focus.
5 Set the zoom to the wide-angle position.
6 Turn the flange focal length adjustment ring of the camera until the same object is in focus. Do not turn the focus ring.



7 Repeat Steps 3 to 6 until the object is in focus while the zoom is in both the telephoto position and the wide-angle position.

1-2-7. SPECIAL CHARACTERISTICS OF A CCD

Smear phenomenon
A smear may appear when a very bright object is shot.

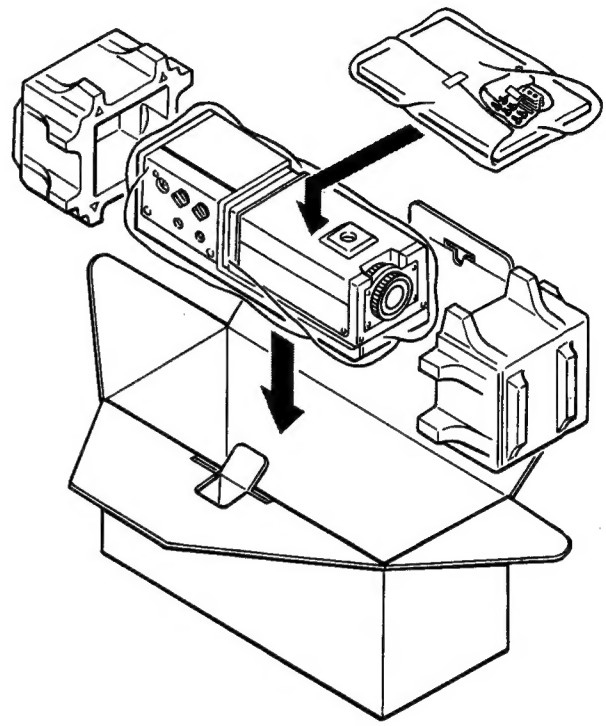


Patterned noise
This may appear uniformly over the entire monitor screen when the camera is operated at a high temperature.

Wavy picture
This may appear when fine stripes, strait lines, etc. are shot. The image monitored on the screen may appear wavy.

1-2-8. REPACKING FOR SHIPMENT

The repacking procedure is subject to change. Refer to the packing instructions on the original carton, as well as those shown here.



Artisan Technology Group is an independent supplier of quality pre-owned equipment

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