

INSTRUCTION MANUAL

MODEL **ICD-B3**

B/W CCD CAMERA

WARNING

Do not use this product as such because it is not fully covered and its electronic parts exposed. Protect the product by building it in the equipment and in an appropriate housing.

1. GENERAL

The B/W camera is of board type with a 1/3" CCD of 250,000 picture elements and is used housed in an ATM unit and other applications.

2. FEATURES

- (1) **AC 24 line lock**
The unit runs on AC 24V power for added safety. The line-locked sync system provides stable pictures.
- (2) **CS lens mount**
The CS lens mount is widely popular for CCTV applications. (The lenses are optional.)
- (3) **Auto shutter function**
The unit is provided with the AESC function using a high-speed electronic shutter. Brightness sensitivities of up to 1600 times can be automatically controlled.
- (4) **Auto iris function**
The unit is equipped with the video iris and DC iris functions. An auto iris lens is employed for shooting in the bright sun.
- (5) **Blacklight compensation**
The backlight compensation circuit is designed to get proper images even in a backlit scene using the AESC or auto iris lens.
- (6) **High-sensitivity design**
The high-sensitivity CCD and the AGC circuit are ingeniously incorporated to have practical images even with a minimum subject illumination of 0.5 lux (lens F1.4).

3. CONFIGURATION

- (1) TV camera (ICD-B3) 1 unit
- (2) Instruction Manual 1 vol.

4. HANDLING PRECAUTION

⚠ WARNING

4-1 Warnings

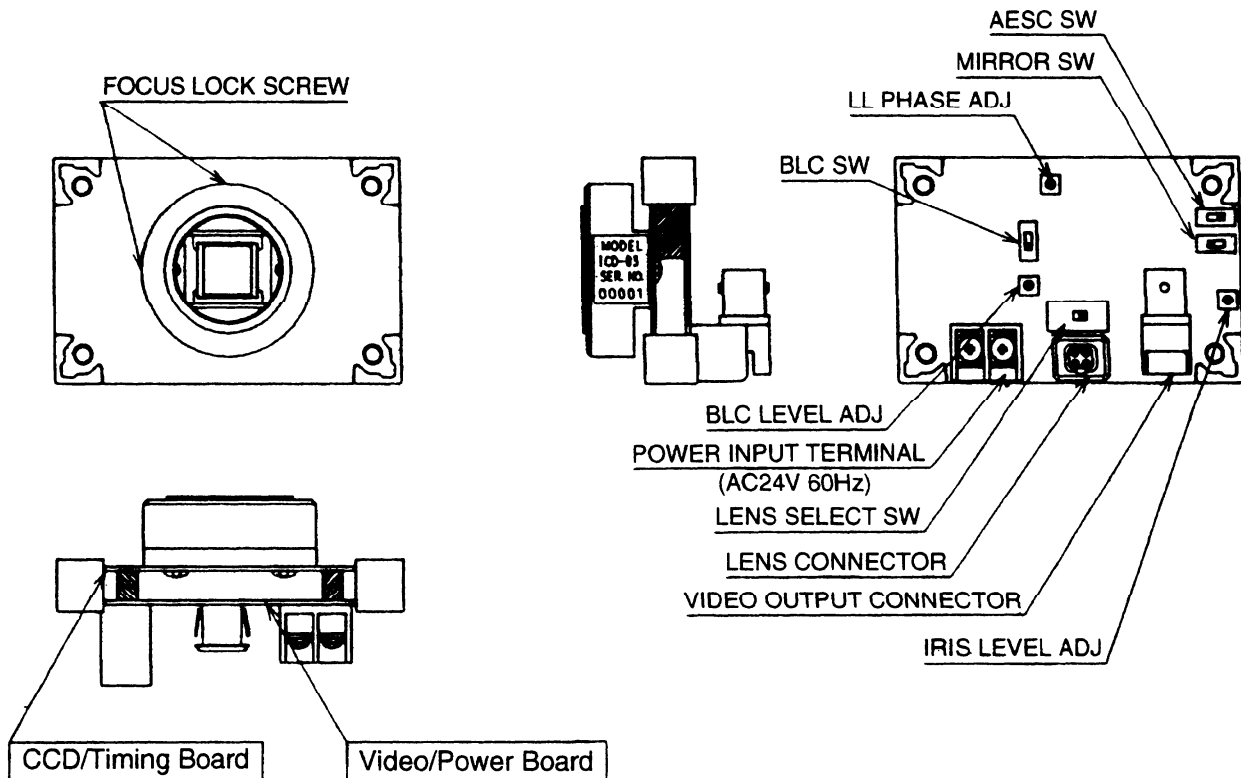
- 1) This product is uncovered with its electronic components exposed. When in actual use, mount it in your equipment or protect it with an appropriate housing.
- 2) This product has a non-insulated AC 24V power section. Be sure to use an insulating transformer for supplying power. Lack of such a transformer may cause electric shock and/or damage the equipment.

⚠ CAUTION

4-2 Cautions

To meet the rules and regulations concerning electric safety and electromagnetic compatibility (EMC), the unit shall be used in a built-in state or properly housed. (Use of the unit alone does not meet the FCC standards.)

5. NAMES AND FUNCTIONS OF EACH PARTS



6. CONNECTION

6-1 Connection of Auto Iris Lens

First set the lens selector switch to the type (Video or DC) of the auto iris lens used. Then connect the lens to the lens connector.

6-2 Connection of Video Out

Connect the BNC cable between the Video Out and CN4.

6-3 Connection of AC24V power

Feed AC24V \pm 10%, 60Hz power.

Note: Be sure to use an insulating transformer because the power supply is of non-insulated type.

7. OPERATION

7-1 Power on

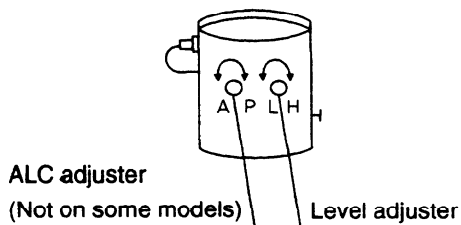
Supply AC 24V to the terminal holder for operation. No power switch is equipped.

7-2 Adjustment of VIDEO level

7-2-1 Video Iris Lens

- (1) Adjust video level by changing the lens iris.
- (2) Adjustment of Automatic Iris Lens

The automatic iris lens adjustment is pre-set to the reference value of the lens itself. Do not fail to readjust when mounting it on this camera. When an adjustment has not been made properly, the dynamic range of the video amp may be exceeded, or S/N ratio may deteriorate.



Adjustment

Lens with ALC adjuster: Remove cap from adjuster, and turn adjuster fully to position A.

(average response metering side.)

Pick up a resolution pattern at 500 lux or more, and turn LEVEL adjuster until video output level on back of camera head is about 0.7 Vp-p (includes pedestal level of 0.05 Vp-p).

If you wish to turn the ALC adjuster back toward position P (peak response metering) because of light conditions of the object, turn the ALC adjuster to an appropriate point in that direction, provided the camera has an auto iris lens with ALC adjuster. If the ALC adjuster is excessively turned toward position P, the iris may not operate properly.

7-2-2 DC Iris Lens

Pick up a resolution pattern at 500 lux or more, and turn IRIS LEVEL adjuster until video output level on back of camera head is about 0.7 Vp-p (includes pedestal level of 0.05 Vp-p).

PRECAUTIONS!! For qualified service personnel only

* Use of the auto iris lens (with AESC off) and AESC mode

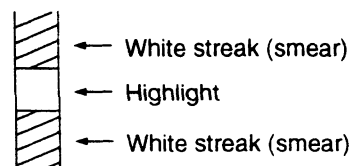
To use the auto iris lens, be sure to turn OFF the AESC switch. (This switch has been factory-set to ON.)

* AESC mode and light source frequency

With the AESC on, use of a light source with other vertical scanning frequencies than the specified ones (60Hz for EIA specification, 50Hz for CCIR specification) causes the hunting phenomenon which disables the AESC function. In this case, turn off the AESC and use the auto iris lens.

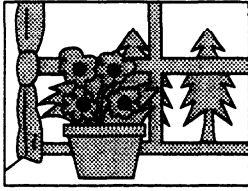
* AESC mode and smears

As shown in the below, use of the AESC mode may increase smears which make the pictures being shot a little bit noisy. This is a typical phenomenon caused by the CCD elements, and it is no trouble. However, if you do not like this phenomenon, turn off the AESC and use the auto iris lens.

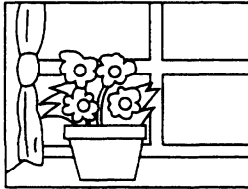


7-3 Backlight compensation (BLC)

When fairly bright light (outside a window, for example) is behind a subject, the subject looks shadowy. In such a case, the backlight effect should be compensated.



• BLC function off



• BLC function on

• Typical backlight compensation

Let's look at the sketch on the left. The house plant is located in front of a window and the background is very bright. So the flowers appear very dark. Turn the BLC switch on, and while watching the monitor screen, adjust the BLC level to get the best image. With the BLC level now adjusted for the flowers, the landscape behind will lose contrast.

- ※ Hunting may happen in certain conditions. In such case, lower the compensation level.
- ※ The BLC function does not make a big difference when the entire scene is dark with no backlight.
- ※ The BLC function is effective both in the AESC mode and with the AI lens in use. Keep in mind that the AESC switch shall be kept off with the AI lens attached.
- ※ The BLC switch has been factory-set at the OFF position.

7-4 Mirror Image Function

When the MIR switch is at the INV position, the image is inverted left and right (mirror image). Usually keep the switch at the NOR position and use it as required.

7-5 FOCUS Adjustment

When the focus cannot be focused with the focus ring of the lens, adjust the optical focus of the camera. However, if the camera is to be focused on a object at a distance shorter than the MOD of the lens, use a separate close-up ring, etc.

- (1) Loosen the two focus lock screws.
- (2) Turn the focus ring of the lens fully to the direction of infinity (∞) and then turn the lens mount of the camera together with the lens until an object at a distance of 20m or more is brought into focus.

In case of a zoom lens, set the zoom ring on the lens to the WIDE-position and then adjust the focus. Make sure that, when the ring is set to the TELE-side, the object is also in focus.

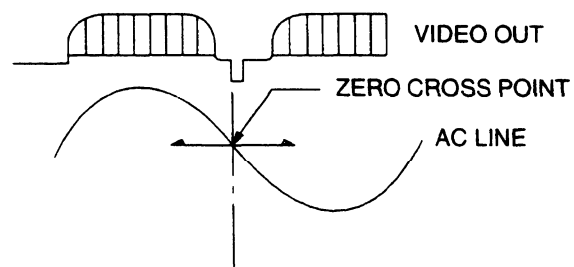
Once the infinity adjustment is perfect, the camera can be focused with the only focus ring of the lens.

- (3) Tighten the two focus lock screws after adjustment.

7-6 LL PHASE Adjustment

LL PHASE ADJ can be adjusted the phase of video output (such as vertical sync edge) against the zero cross point of AC line.

See the detail of below figure.

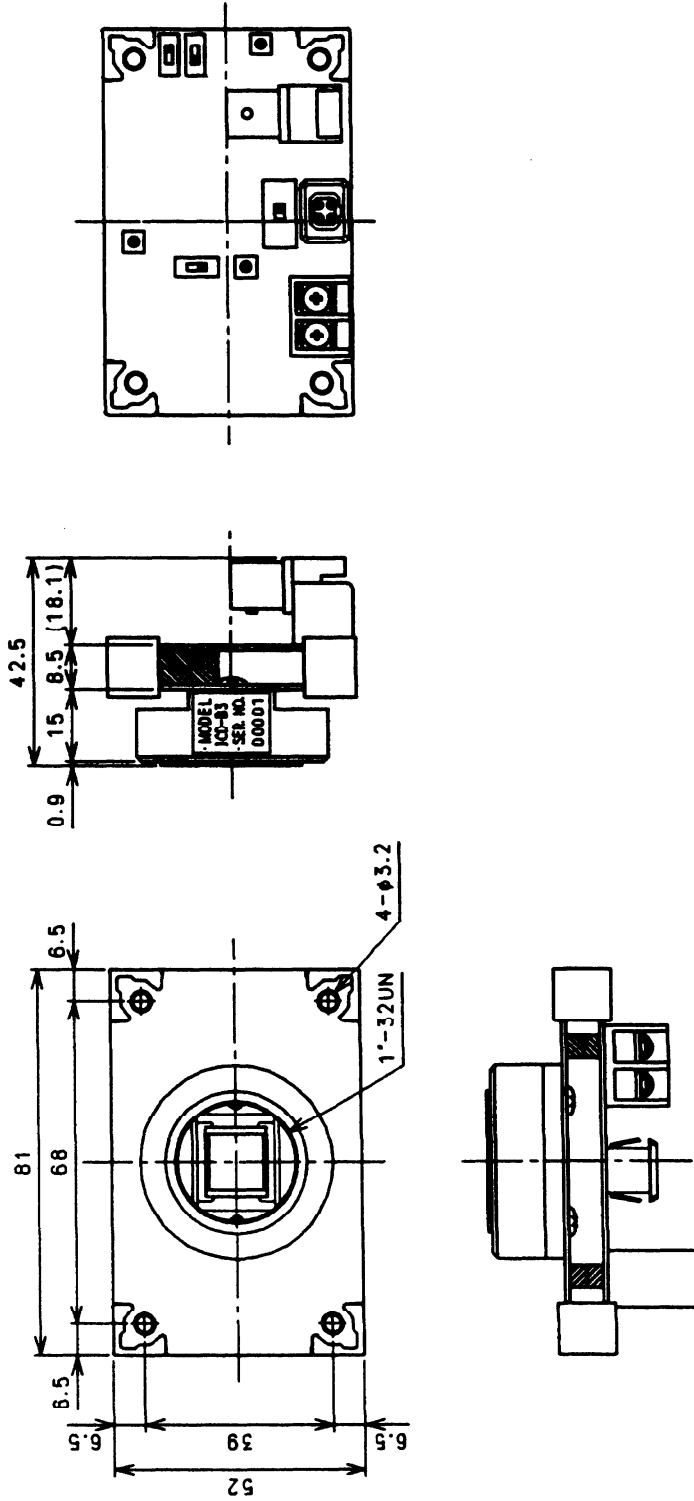


PRECAUTIONS!!

Internal adjuster

Never move the internal adjuster: internal adjuster has been factory-set to the optimum level.

8. EXTERNAL APPEARANCE



9. SPECIFICATIONS

- | | |
|---|---|
| (1) Image sensor: | 1/3-inch interline transfer system CCD |
| (2) Effective pixels: | Approx. 250,000, 512 (H) × 492 (V) |
| (3) CCD surface size: | 4.8 (H) × 3.6 (V) |
| (4) Scanning system: | 525 lines/60 Hz, 2:1 interlace |
| (5) Scanning frequency: | Horizontal: 15.75 KHz
Vertical: 60 Hz |
| (6) Synchronizing system: | Internal, line lock (phase adjustable) |
| (7) Video output: | VS 1.0 Vp-p/75 Ω |
| (8) Resolution: | Horizontal: 380 TV lines
Vertical: 350 TV lines |
| (9) S/N ratio: | 46 dB (p-p/rms) |
| (10) Illumination (light source
color temperature: 2,856°K): | Subject
Standard: 18 lux
Minimum: 0.5 lux
No IR cut filter, AGC ON, γ 0.45
The illuminations required for a subject described above is when an
F1.4 lens is used and the reflectance for the subject is 89% |
| (11) AGC: | Equipped ON |
| (12) GAMMA: | Approx. 0.45 |
| (13) AESC RANGE: | 1:1600 (ON/OFF switchable) |
| (14) Backlight compensation (BLC) | Provided (ON-OFF selectable and level adjustable) |
| (15) Auto iris function: | Video iris/DC iris (switchable) |
| (16) Lens mount: | CS mount (C mount attachable by using the adapter)
The C mount adapter is optional. |
| (17) Power requirements: | AC 24V ± 10%, 60 Hz |
| (18) Power consumption: | Approx. 2 W |
| (19) Operating ambient temperature: | - 10°C to + 50°C |
| (20) External dimensions: | 81 (W) × 52 (H) × 42.5 (D) mm [3.2 (W) × 2.1 (H) × 1.7 (D) in.] |
| (21) Weight: | Approx. 95 g (3.4 oz.) |
| (22) Connectors: | · AC 24V input: 2P terminal board (screw terminal)
· Auto iris output: 4P (applicable plug: E4-191J-100, option)
· Video output: BNC |
| (23) Accessories: | (1) Instruction manual: 1 vol. |

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