



GENESIS | CCTV™
Vision with Integrity.

Product Manual

BC-540DNI



www.GenesisCCTV.com

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GENESIS | CCTV

Vision with Integrity

Box Camera : Color Day/Night w/ICR



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Thank you for purchasing HQ Day&Night Camera. Before using the camera, please read this operation manual carefully to obtain the best result and keep this manual for future reference.

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FEATURES

- **Day & Night**

The Optical Low Pass Filter is switched automatically and converts the image to color or monochrome according to the light conditions.

- **High sensitivity**

Built in interline transfer method 1/3" Sony Super HAD CCD, approx 410,000 picture elements.
High Sensitivity, minimum illumination is 0.05Lux (Color Mode), 0.03Lux (B/W Mode) at F1.2

- **High quality image**

High resolution, high sensitivity design for a horizontal resolution of 540 TV lines.
High quality image is obtained by digital signal processing with optimization of control program and image correction algorithm.

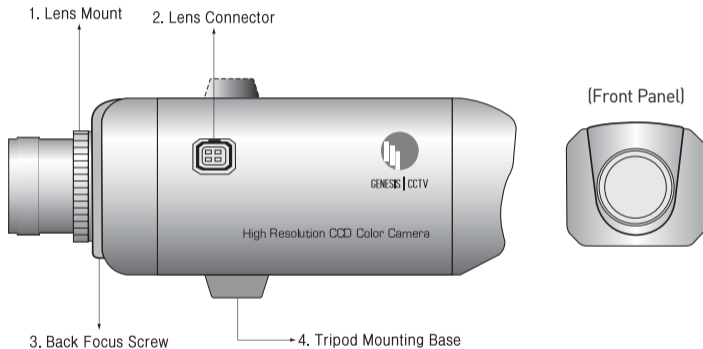
- **Back light compensation**

When a camera scene has a strong light source that shines toward the camera objects in the foreground will appear as silhouettes. The backlight compensation function suppresses the bright back light and exposes detail on objects that are in the foreground.

- **Iris function**

The CCD iris function automatically sets the brightness of the picture by changing the shutter speed of the camera according to the incident light levels. This allows a manual iris lens to be fitted to the camera for internal applications.

NAME & FUNCTION



1. Lens mount

Mount for lens installation. C-mount lens can be used when C-mount adapter is attached and CS-mount lens can be used when it is removed.

2. Lens connector

When using an auto iris lens, connect the lens cable to this connector. See page 10.

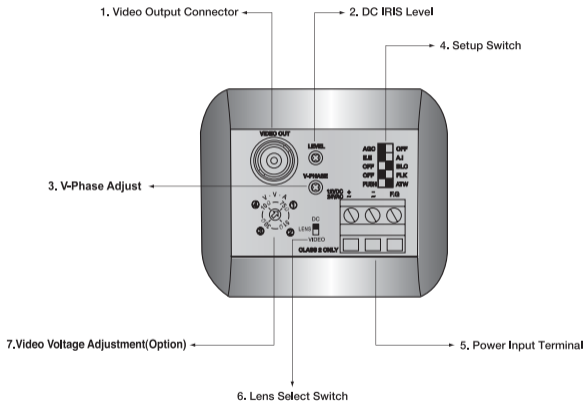
3. Back-Focus screw

Loosen this screw to adjust “coarse focus”, when correctly adjusted tighten the screw. See page 17.

4. Tripod mounting base

Mounting base for camera installation. See page 18.

REAR VIEW & FUNCTION



1. Video output connector

BNC connector that outputs a composite video signal.

2. DC Iris level

Adjusts the lens iris level when using a DC(direct drive) type auto iris lens.

3. V-Phase adjust

Adjusts the phase when cameras are using the line lock function.

4. Setup switch

Switch for camera setup according to the operating circumstances. See page 11~13.

5. Power input terminal

Connect to 12VDC or 24VAC power source. When operating with 12VDC or 24VAC power supply, use only an isolated power source. (Be sure not to connect the power source until all other connections are completed)

6. Lens select switch

When using an auto IRIS lens, set the switch according to the lens type.

VIDEO : Set to this position when using a Video type lens.

DC : Set to this position when using a DC (galvanometric) type lens.

7. Video Voltage Adjust (Option)

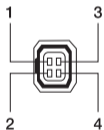
Allows the video output of the camera to be increased when driving long cable runs.

Lens Connector

When using an auto IRIS lens, connect the lens cable to the lens plug.

- **Video IRIS type lens :** Set lens switch to VIDEO, and put the lens cable into the lens connector. If the plug on the cable is a different type, replace it with the provided 4-pin iris plug.
- **DC IRIS type lens :** Set lens switch to DC, and put the lens cable into the lens connector. If the plug on the cable is a different type, replace it with the provided 4-pin iris plug.

• Pin Assignment



• VIDEO Iris type Lens

Pin No.	Signal
1	+9V DC (50mA max)
2	NC
3	Video
4	GND

• DC Iris type Lens

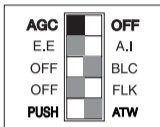
Pin No.	Signal
1	Damping coil(-)
2	Damping coil(+)
3	Drive coil(+)
4	Drive coil(-)

Note : When using the Auto iris lenses, set-up switch to A.I position on the rear panel. Auto iris lens can not be operated properly if the switch is set for E.E.

Setup Switch

1. AGC (Automatic Gain Control)

At the AGC on setting, camera's sensitivity is automatically increased when the level of ambient light drops. AGC function automatically controls signal gain in the range of maximum 34dB.



2. E.E/A.I (Electronic Shutter Control)

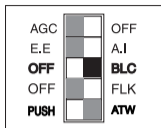
When using a fixed IRIS lens, the brightness of the picture image will be fixed by setting E.E mode as the shutter speed is automatically varied in the range of 1/60 to 1/100,000 sec according to the incident light.

Set A.I mode when VIDEO type or DC type auto IRIS lens is used.



3. BLC (Back Light Compensation)

Strong light, such as a spotlight, entering the scene back ground causes the lens iris to close, thereby possibly obscuring desired portions of the scene. Backlight compensation function automatically adjust the light level compensation, so that user can always obtain a clear picture, the finest detail and perfect light contrast.



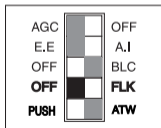
0		
2	4	3
1		

The camera has 5 BLC zones in it's field of view. During BLC operation the BLC sensing zone uses the two upper zones as shown on the diagram on the left. When BLC is applied video levels are adjusted so that objects can be distinguished more clearly in unfavourable light conditions.

4. FLK (Flickerless)

If the camera is used with 50Hz fluorescent lighting, there will be flicker on the screen. In this case, set the FLK on. But FLK should be OFF in 60Hz power source.

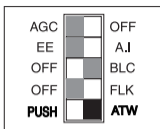
Flickerless mode can overcome flickering on the screen in case that the AC power frequency is different from the vertical sync frequency of the camera.



5. ATW (Auto-Tracking White Balance)

At the ATW on setting, color temperature is automatically adjusted and true color image can be shown.

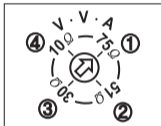
PUSH : White balance is fixed under the present light temperture.



6. Video Voltage Adjustment(Optional)

The longer cable installed, the lower Ω (ohm) rate applied.

- ① 75 Ω : Default ② 51 Ω ③ 30 Ω ④ 10 Ω



- **L.L/INT(Line-Lock/Internal)**

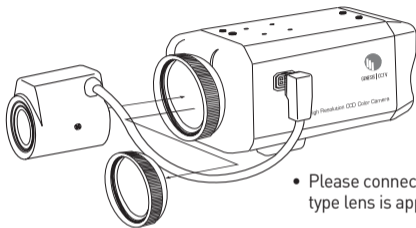
Line lock or internal sync mode are automatically selected by the type of power supply used to power the camera.

When using the camera in line lock mode(with an AC supply) it is possible to adjust the V phase alignment between 0 and 270 degrees.

Note : At the L.L setting, the camera's vertical synchronization is driven by the AC signal supplied by AC PSU.

- When in line lock mode the camera synchronization may not be correct for a few seconds after power up. This is normal.
- If horizontal lines rolling upward or downward observed from the screen, reverse the polarity of the power cable connected to the power input connector.

LENS INSTALLATION



- Please connect a lens cable when DC type lens or Video type lens is applied.
- E.E/A.I switch on the rear panel should be set to E.E position when manual IRIS lens is used.
- When using a Video type lens please adjust the iris level using the lenses onboard adjusters.
- When using a DC type lens please adjust the iris level by using the lens level adjuster on the camera's rear panel.

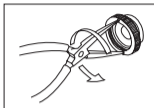
- **Mounting a lens**

- ① Remove the lens mount cap from the camera
- ② Attach or remove the C-mount adapter depending on the lens to be used.
 - If the adapter is attached so tightly that is difficult to remove, use long - nosed pliers to remove it.

Insert the tips of the pliers into the holes with no threads, thus turn to remove.

A screwdriver can be also used. Insert M2.6 Screws into the holes so that the screw driver has something to grip.(Store the C-mount adapter for possible future use)

- ③ Attach the lens to the mount and secure it so that it does not become loose.
- ④ If the lens has an auto-IRIS mechanism, connect the lens connector.
 - When a Video-IRIS lens is used, lens switch should be set VIDEO position.
 - When a DC IRIS lens is used,lens switch should be set DC position.



- **ADJUSTING AUTO-IRIS LENSES**

Make this adjustment after connecting the camera to a power source and a monitor.

- ① Set AGC mode to "Off".
- ② When using a Video type lens. Adjust the iris level on the lens to produce minimum smear and optimum picture quality.
- ③ When using a DC type lens. Use the cameras onboard DC iris level adjuster to produce minimum smear and optimum picture quality.
- ④ Set AGC mode to "On". It is recommended to set AGC mode on after adjusting the video level.

- **Back-Focus Adjustment**

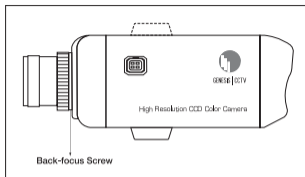
- When a lens is mounted, Back-Focus Adjustment can be required. Adjust with the lens focus ring when the correct focus cannot be obtained.

- **With a Fixed-Focus Lens**

- Fully open the aperture and set the focus ring to “∞”(infinity). In the case of an auto IRIS lens only, shoot a comparatively dark object so that the aperture is fully open.
- Loosen the back-focus screw with a L-wrench, and turn the lens mount to focus.
- After adjusting the back-focus, tighten the back-focus screw.

- **With a Vari-focal Lens**

- Fully open the aperture and set the lens to the maximum tele-photo position. Then turn the focus ring to focus. In case of an auto IRIS lens only, shoot a comparatively dark object so that aperture is fully open.
- Set the lens to its maximum wide-angle position.
- Loosen the back-focus screw with a L-wrench, and turn the lens mount to focus. After adjusting the back-focus, tighten the back-focus screw.
- Repeat above step until the difference between focusing position “Tele” and “Wide” becomes the smallest.



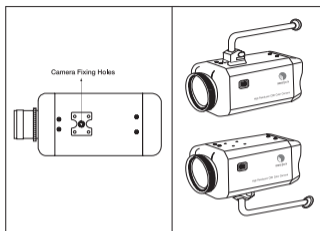
CAMERA INSTALLATION

• Installation

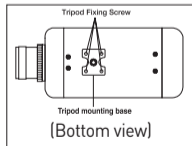
Camera can be installed on a tripod or a fixing part from the upper or the bottom plate by using the camera fixing holes (1/4, 20UNC) on the tripod mounting base. The tripod mounting base is attached on the bottom plate when shipped from factory.

Move the tripod mounting base when installing the camera from the upper plate.

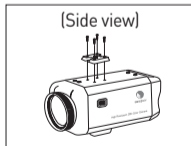
There are two camera fixing holes on the tripod mounting base, Use the two holes to increase the fixing intensity when installing the camera specially.



• Tripod mounting base



1. Remove the tripod fixing screws to remove the tripod mounting base from the camera bottom plate.



2. Attach the tripod mounting base on the upper plate of the camera with the tripod fixing screws.

SPECIFICATION (Day&Night Camera)

	BC-540DNI
True Day/Night	Day/Night(ICR)
Image Sensor	Sony 1/3" Super HAD CCD
Signal System	NTSC
Effective Pixels	410K
Scanning System	525Lines 2:1 Interlace
Scanning Frequency	(H)15.734KHz(V)59.94Hz
Sync.System	Internal(12VDC)/L.L.(External, 24VAC), Automatic Switching
Video Output	1Vpp, 75Ω, Composite Video Signal
Video S/N Ratio	48dB (AGC Off)
Horizontal Resolution	540 TV Lines
Minimum Illumination	0.05Lux (F1.2, Color)
Function Key	AGC, EE/AI, FLK, BLC, ATW
Lens Mount	C/CS Mount
Camera Mount	1/4" 20UNC (Top/Bottom)
Power Source	12VDC / 24VAC Dual Power(Non Polarity)
Power Consumption	12VDC 450mA ±10% / 24VAC 8W ±10%
Operating Temperature	14°F ~ 122°F (-10°C ~ +50°C)
Operating Humidity	Within 90%RH
External Dimensions	65(W) x 54(H) x 133(D)
Weight	300g

SUPPLIED ACCESSORIES

- Lens connector plug
 - Lens mount cap
 - L-Wrench
 - Operation manual
 - Triped Mounting Base
 - Triped fixing screw x 4
 - C-Mount adapter
- The lens mount cap and CS-mount adapter are attached when supplied.

Note : Design and specifications are subject to change without notice.



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