



Instruction Manual

CVC-614C High Resolution Color Camera

and

**CVC-865DN/24 High Resolution Color
Camera With Mechanical IR Cut Filter**



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CE FC ISO 9001:2000

Speco Technologies CVC-614C : CVC-865DN/24
Instruction Manual

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Introduction

◆ FCC Information

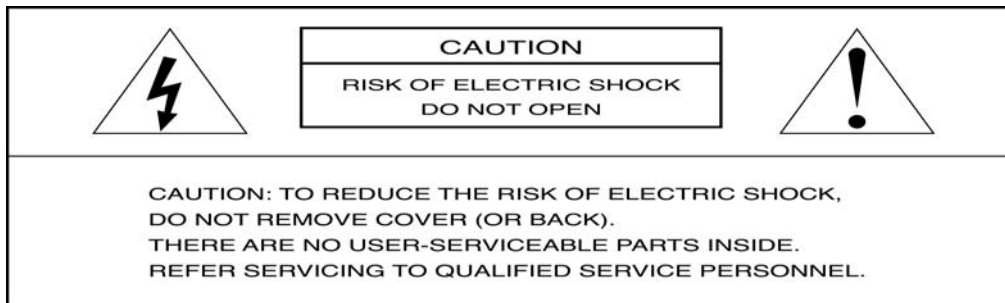
This equipment has been tested and found to comply with the limits of a class A digital device, pursuant to part 15 of the FCC rules and also guaranteed with CE approval. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment 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.

Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his or her own expense.

The user's manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the users' authority to operate the equipment.

◆ Warning

To prevent fire or shock hazard. do not expose the unit to rain or moisture.



This symbol alerts the user to the presence of non-insulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



This symbol alerts the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

► Handle the camera with care.

Be careful while handling or installing the camera. Do not drop it or subject it to strong shock or vibration to prevent any damages to it. Do not disassemble it or place it on an unstable base.

► Never face the camera toward the sun.

The camera's picture may be influenced when working in unusual brightness environment. Sun light may do influence on the picture quality or camera itself. Never aim the camera at the sun or other extremely bright objects whether it is in use or not.

► Cleaning.

Do not touch the surface of CCD sensor by hand directly. Using lens tissue or a cotton tipped applicator and ethanol to clean the CCD sensor and camera lens. When the camera is not in use, always put the cover cap on the lens mount.

► Operation temperature.

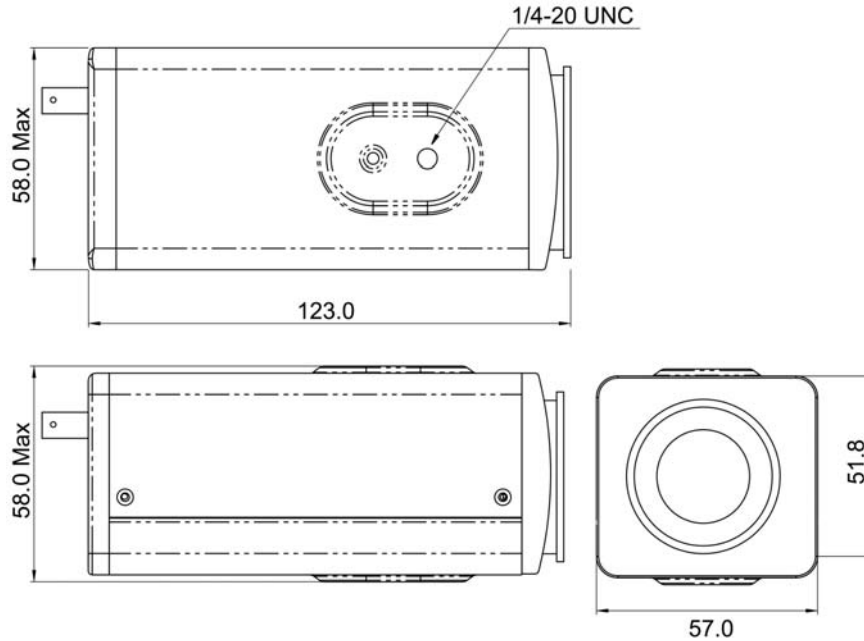
This camera is designed for use in general purpose indoor CCTV application. Only operate your camera between the temperature of -10°C to +60°C (14°F to 140°F)

◆ About this Manual

This user manual covers the following models listed below. Before installing and using the camera, please read this manual carefully. Be sure to keep it handy for later use.

◆ Dimensions

(Unit: mm):



◆ Features

- ✚ Accepts C or CS mount lens.
- ✚ Low light, high sensitivity.
- ✚ DC/Video Drive
- ✚ Back Focus

Available in Selected Models

- ✚ AGC (Automatic Gain Control)
- ✚ Back light compensation.
- ✚ External Sync.(Line Lock)
- ✚ Day & Night (Removable)
 - ▶ Under different light conditions, it will automatically changeover the color to B/W and vice versa. *Perfectly for clear viewing
- ✚ High Resolution 580 TV Lines (HQ1)
- ✚ Min. illumination of 0.5Lux, F1.4 (HQ1)

◆ Accessories

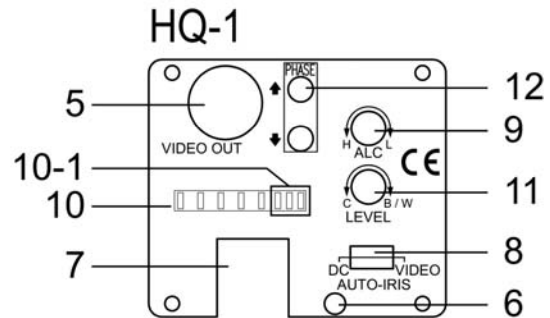
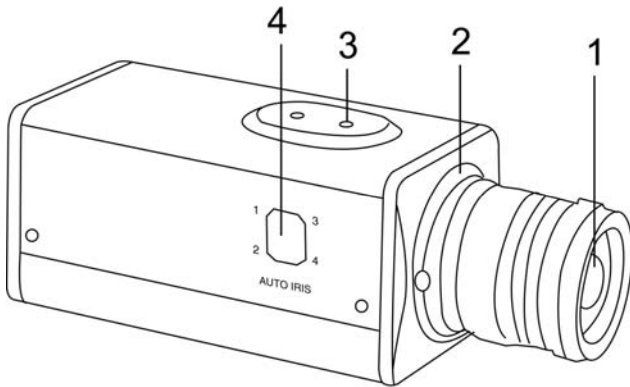
The packaging contains:

- Camera x 1
- Instruction Manual x 1
- C/CS Mount adjusting ring x 1
- Connector of Auto Iris Lens x 1
- Adjustment Tools x 1

If any parts are missing or damaged, contact the dealer you purchased the camera from.

Camera Functions

◆ Parts Descriptions



1. C mount lens ring adapter.

If you are using a CS mount lens, remove the C mount lens ring adapter.

2. Flange back adjusting ring

If back focus adjustment is required, loosen the flange back locking screw, and adjust back focus by rotating the ring.

3. Mounting bracket screw hole (1/4" -20 UNC)(top)

4. Auto iris lens connector (mini jack)

5. Video output terminal (BNC)

6. Power supply indicator

7. Power input terminal

8. Video / DC drive auto iris lens selector

9. ALC level adjuster - for DC-DRIVE lens

10. Function control DIP switch

*10-1: Function control DIP switch (WB mode)

*11. Color & B/W Level switch

*12.Phase adjuster (↕ button)

*Selected models.

Camera Functions

◆ Function Description

1. Auto Electronics Shutter (AES)

When using a DC Drive or Video Drive Auto Iris Lens, turn off the AES. When a Fixed Iris or Manual Iris Lens is used, turn the AES on to adjust the shutter speed automatically.

2. Automatic Gain Control (AGC)

AGC can automatically amplify the digital signal to adjust for the difference of light level.

3. Auto Tracking White Balance (ATW) / Auto White Balance (AWB)

When the color difference is too obvious, turn the AWB on to have better balanced color, Set the switches to ATW to have a normal color picture.

4. Aperture Gain (APG)

APG can make the picture become sharper, switch to OFF for normal mode.

5. Back Light Compensation (BLC)

When BLC is ON, the AGC, AES and IRIS operating point is determined by averaging over the center area instead of entire field-of-view, so that a dimly-lit foreground object at center area can be clearly distinguished from brightly-lit backgrounds. When operating the camera outdoor, turn the BLC on to get clear picture of object on screen. For indoor using or when operating the camera in low light environment turn, the BLC ON as well.

6. DAY & NIGHT (ICR removable)

The camera provides automatic mode changeover from color to B/W or B/W to color by sensing different light conditions. It remains at true color mode in the day condition for optimal color and switched to B/W mode in night condition for clear viewing by removing the Infrared Cut Filter.


7. Flickerless (FLC)

This switch captures the wide and intense range of color of some light sources and adjust the color, gain, electronic shutter control and tracking balance to produce a good quality color picture.


8. Internal Line Lock (INT / LL)

The Line Lock is designed to stabilize the image. Always switch it on. Line Lock sync is interchangeable and only available when with an AC Power source. It's unavailable with 12V DC power.

◆ DIP Switch Control

Function	Format	Description
LL - IN	LL	For stabilizing the image Use the () button to adjust.
	IN	Initial setting is IN.
OFF-AES	OFF	Normal: 1/60 (1/50)
	AES mode	NTSC: 1/60~1/100000 PAL: 1/50~1/100000
BLC-OFF	BLC	ON
	OFF	BLC OFF.
OFF-AGC	OFF	AGC OFF.
	AGC	Turn it on in the dark environment to get clear image.
FLC-OFF	FLC	Use to change shutter speed under flicker state. NTSC: 1/120 PAL: 1/100 <input type="checkbox"/> Note: Can only be used when AES is on.
	OFF	FLC OFF
WB1	H	When the color temperature of the environment dramatically changes, you can adjust WB mode/switches to have better color image. *Please see the "White balance mode".
WB2	L	
	H	
WB3	L	
	H	

◆ White Balance Mode

WB1	WB2	WB3	MODE	Remark
L	L	L	ATW (Auto White balance)	Natural: Outdoor and environments under daylight.
L	L	H	MWB (Manual White balance)	Use the () button to adjust.
L	H	L	Push	Similar with ATW.
L	H	H	Hold	(White balance mode-manual) When you use this function, pointing the camera to a specific area, ex: white paper, you can then apply the color to elsewhere.
H	L	L	fixed value (4700°K)	For your reference, please check on Color Temperature chart. K= Kelvin color Temperature
H	L	H	fixed value (3200°K)	
H	H	L	fixed value (4200°K)	
H	H	H	fixed value (6300°K)	

Camera Functions

◆ Color Temperature Chart (White Balance)

Light Sources	Degrees (°k)
Summer Skylight	12000 – 25000°k
Daylight Shade	10000°k
Skylight	8000~10000°k
Overcast	6500~7500°k
Studio Electronic Flash	6500°k
Daylight/ Auto Flashlight	5500°k
Fluorescent bulbs	4200~5000°k
Cool white- fluorescent bulbs	4500°k
Warm white- fluorescent bulbs	3500°k
Studio Lights	3400°k
Professional Tungsten photo lamp	3200°k
Household bulb	2700~3200°k
Sunrise、 Sunset	2000~3000°k
Candle	1900°k

※ note: Please note that the values are approximations because many factors affect color temperature.

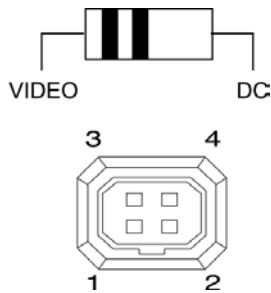
Installation Guide

◆ Installing the lens

1. Remove the lens cap from the front of the camera.
2. If you are using a C mount lens, screw the lens directly into the camera.
3. If you are using a CS mount lens, remove the C mount lens ring adapter.
4. When using a fixed iris lens, switch the shutter control to AES ON.
5. When using a manual adjustable iris lens, switch the shutter control to AES OFF.
6. When using a Video servo auto iris lens or DC servo auto iris lens, switch the shutter control to AES OFF.

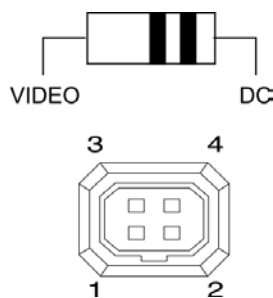
◆ Auto iris lens connection

1. When using auto iris lens (with EE amp)
Set the lens selector to the "Video" position.



PIN	DEFINITION	LENS CABLE LEAD
1	DC +12 V	Red
2	Video iris	White
3	NC	-
4	Ground	Black

2. DC servo auto iris lens (without EE amp)
Set the lens selector to the "DC" position.



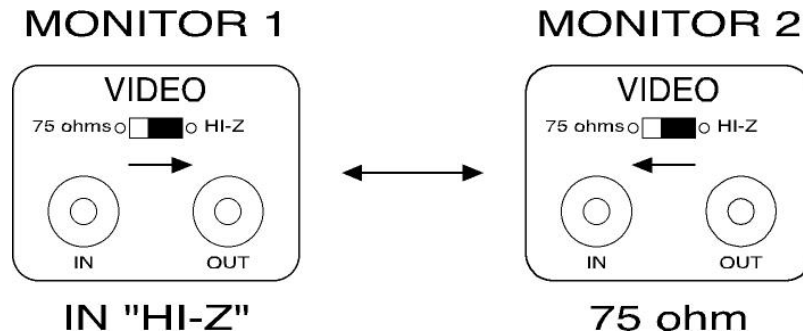
PIN	DEFINITION
1	Damping -
2	Damping +
3	Driving+
4	Driving-

☐ To ensure correct lead connection, please refer to the instructions on the lens.

Installation Guide

◆ Connections

1. Keep the cameras' power OFF during the installation.
2. Ensure that the input voltage is correct for the plug pack; both the camera and the plug pack may be damaged if the voltage is incorrect.
3. Terminate the camera output to 75 ohms.
Use 75-ohm coaxial cable (RG-59/U, RG-6/U, RG-11/U).
Always set the last monitor termination switches to 75 ohms, and set the termination switches of intermediate monitors to HIGH (HI-Z)



4. The table below shows the Maximum recommended cable length.

Type of Coaxial Cable	RG-59 / U (3C-2V)	RG-6 / U (5C-2V)	RG-11 / U (7C-2V)
Recommended Maximum Cable Length	30 ft. 100m	660 ft. 200m	825 ft. 250m

◆ Auto Iris Lens Adjustments

Once the lens is screwed in completely to its mechanical stop position, you will then be able to rotate lens chassis back to suit the set-up position of the camera. The back focus adjustment is accessible at the front end of the camera. It allows you to adjust the back focal length or picture focus.

*Note: it does not apply to all types of lens, please contact with your dealer you purchased your lens from.

◆ Troubleshooting

Problem	What to Check
- No picture appears on the monitor	<ul style="list-style-type: none"> Is the system power on? Is the cable connected properly? Has the lens cap been removed? Is the illumination proper? Is the monitor properly adjusted?
- The picture is not clear	<ul style="list-style-type: none"> Is the lens mount ring proper? Is the lens clear? Is the lens properly focused? Is the monitor terminated properly?

©Note: If dust adheres to the lens, the picture quality will suffer.

To clean the lens, wipe lightly with a soft cloth or commercially available lens cleaning paper.

Specifications

◆ Color HQ-1 Camera

Item	CVC-614C	CVC-865DN/24
Description	1/3" Color HQ1 Camera	1/3" Color HQ1 Camera with ICR (Mechanical IR Cut Filter)
DSP	Sony HQ1	
Pick up Element	Sony Super-HAD CCD Image Sensor	
Number of Pixels	<NTSC> 768 (H) × 494 (V)	
Auto Electronics Shutter	ON-OFF	
AGC	ON-OFF	
ALC	Low-High	
WB	ATW/ MWB (PUSH-HOLD) 3200°k/ 4200°k/ 4700°k/ 6200°k	
Back Light Compensation	ON-OFF	
FLC	ON-OFF	
Line Lock*	IN-LL	
Sync. Mode	Internal Sync.	
Scanning System	2:1 Interlace	
Resolution	580 TV Lines	
S/N Ratio	More than 48dB	
Gamma	0.45	
Minimum illumination	0.5 Lux, F1.4	
Horizontal Sync. Frequency	<NTSC>15.734 KHz	
Video Output	1.0 Vp-p, 75 ohm	
Power Source	AC/DC(12~24)V, AC 99V~240V	
Power Consumption	(AC/DC)3W	
Operating Temperature	-10°C to +60°C	
Lens Mount	C/CS mount	
Shutter Control	<NTSC>1/60-1/100,000 sec.	
Dimensions	123(L) x 57(W) x 52(H) mm	
Net Weight	<AC/DC type>0.44kg	

* Specifications are subject to change without prior notice.

* Line Lock is available when AC Voltage is used.



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