

HD CCTV Digital Video Camera OPERATION MANUAL



Thank you for choosing our high quality camera. Before attempting to connect or operate, please read and follow these instructions.

CAUTIONS

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.
2. This device must accept any interference received, including interference that may cause undesired operation.

Note -

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, 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 own expense.

WARNING -

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Caution -

Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CAUTION

1. A regulated DC12V 500mA power supply is recommended for use with this camera for the best picture and the most stable operation. **An unregulated power supply can cause damage to the camera. When an unregulated power supply is applied, the product warranty will be void.**
2. It is recommended that the camera is used with a monitor that has a CCTV quality 75Ω video impedance level. If your monitor is switched to high impedance then please adjust accordingly.
3. Do not attempt to disassemble the camera to gain access to the internal components. Refer servicing to your dealer.
4. Never face the camera towards the sun or any bright or reflective light, which may cause smears on the picture and possible damage to the image sensor.
5. **Do not remove the serial sticker for the warranty service.**
6. Do not expose the camera to rain or other types of liquid.
7. The apparatus must be connected to a main socket-outlet with a protective earth connection.

CAUTIONS

WEEE
(Waste Electrical & Electronic Equipment)

This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources. Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract.
This product should not be mixed with other commercial wastes for disposal.

CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER. SERVICING TO QUALIFIED SERVICE PERSONNEL.

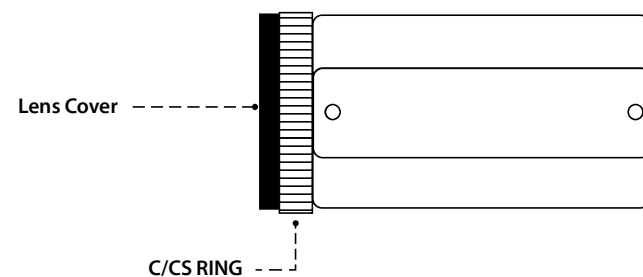
- This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.
- This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instruction in the literature accompanying the appliance.

COMPONENTS

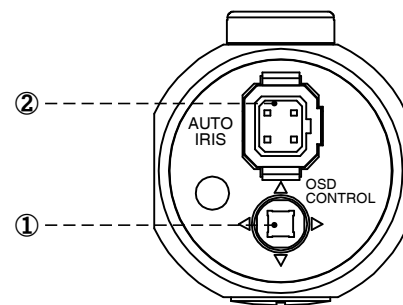
HD CCTV Camera	
Auto Iris Lens Connection Plug	
C-mount Adaptor Ring	
Spare Screw (Machine 2x2) - 2ea	
Operation Manual	

NAME AND FUNCTION

FRONT



BACK



- ①. ■ MENU BUTTON
- ▲ UP BUTTON
- ▼ DOWN BUTTON
- ◀ LEFT BUTTON
- ▶ RIGHT BUTTON
- ②. Auto IRIS Jack

INSTALLATION

• LENS CONNECTION

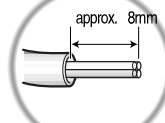
Lenses are sold separately. Lenses such as an auto iris lens, CS-Mount lens and C-Mount lens can be used.

NOTE

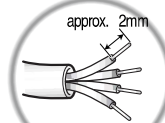
- Please keep the lens clean.
- Any foreign objects and fingermarks on the lens can cause inferior image quality in low light level conditions.

When using an auto iris lens

1. Please peel off about 8mm of the outer skin of the auto iris lens cable.



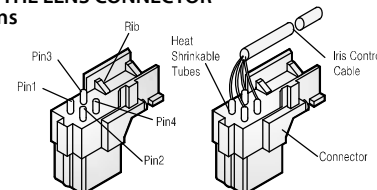
2. Please peel off about 2mm of the outer skin of the insulated conductor inside the lens cable.



3. Please remove the cover of the auto iris lens connection plug and solder the lens cable to the connector pin in the plug.

*PIN ASSIGNMENT OF THE LENS CONNECTOR

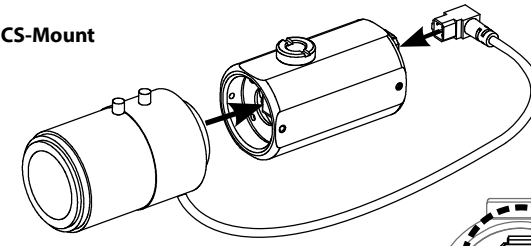
Signal for DC + iris lens
Pin 1: DAMP-
Pin 2: DAMP+
Pin 3: DRV+
Pin 4: DRV-(GND)



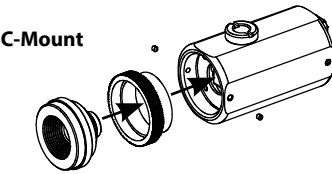
4. Please replace the auto iris lens connection plug cover and take off the SENSOR protection cap and then attach the auto iris lens to the camera by screwing it in clockwise.

5. Please insert the connection plug that is connected to the auto iris lens cable into the auto lens connector, which is located on the back of the camera.

CS-Mount

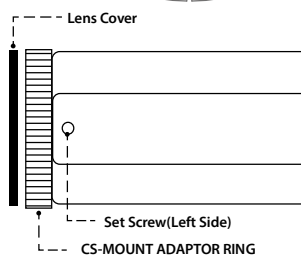


C-Mount



Back Focus Procedure

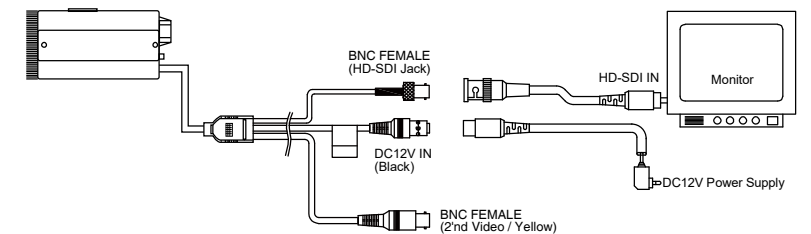
- Step 1 - Remove Lens Cover.
- Step 2 - If using a C-Mount lenses it can be applied to the camera at this time.
- Step 3 - Most current lenses are CS-Mount and require removal of the C/CS ring.
- Step 4 - To remove the C/CS ring loosen but do not remove completely the two set screws and then remove the C/CS ring.
- Step 5 - Screw on the CS-Mount lens until a good picture is obtained and tighten the set screws.
- Step 6 - Use the focus ring on the lens to obtain a finer focusing.



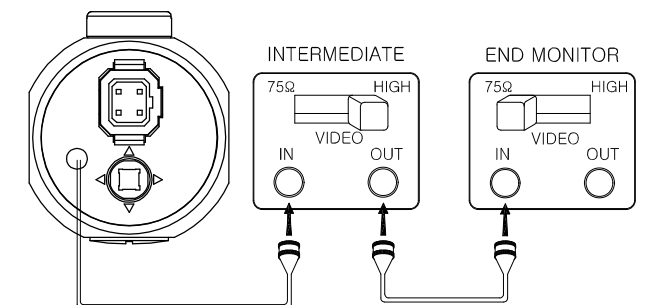
NOTE

- if a C-Mount lens was applied and focus could not be obtained, please try the following :
 - Ensure that the lens is in face a C-Mount and not a CS-Mount.
 - Check the focus adjust on the lens.
 - if need be loosen the set screws and adjust the position of the lens and C/CS ring as one unit until a good focus is obtained.

• MONITOR CONNECTION



- * As the connecting method varies with instruments, refer to the manual supplied with the instrument.
- * Only connect the cable when the power is turned off.
- * Set the 75Ω / Hi-Z selection switch as shown below if you have an intermediate device.



OSD MANUAL

MAIN MENU	1st Sub MENU	2nd Sub MENU	3rd Sub MENU	4th Sub MENU	5th Sub MENU	
EXPOSURE	BRIGHTNESS	0 ~ 20				
	LENS	DC	MODE	OUTDOOR, INDOOR, DEBLUR		
		MANUAL	MODE	NORMAL, DEBLUR		
	SHUTTER	AUTO				
		FLICKER				
	MANUAL	SHUTTER SPEED	1/30,1/60,1/120,1/250,1/700,1/1000,1/1600,1/2500,1/5000,1/7000,1/10000,1/30000			
		RETURN	BACK / EXIT			
	DSS	OFF, X2~X32				
	AGC MAX	OFF~42dB				
	INITIAL					
RETURN						
WHITE BALANCE	MODE	AUTO				
		PUSH LOCK				
	MANUAL	COLOR TEMP	LOW,MIDDLE,HIGH			
		RED GAIN	0~20			
		BLUE GAIN	0~20			
RETURN						
PUSH AUTO	CONTROLLER					
COLOR GAIN	0~20					
INITIAL						
RETURN						
OFF						
WDR/BLC	BLC	LEVEL	0~10			
		BLC POSITION	H-POS	0~20		
			V-POS	0~20		
			H-SIZE	0~20		
			V-SIZE	0~20		
	RETURN					
	HLC COLOR	---				
	INITIAL					
	RETURN					
	HLC	LEVEL	0~20			
BLC POSITION		---				
HLC COLOR		BLK, D.GRAY, L.GRAY, WHT, YEL, CYN, GRN, MAG, RED, BLU				
RETURN						
WDR	LEVEL	*1)0~10, *2)LOW, MIDDLE, HIGH				
	BLC POSITION	---				
	HLC COLOR	---				
	RETURN					
INITIAL						
RETURN						
DNR	OFF / LOW / MIDDLE / HIGH					
DAY & NIGHT	AUTO	DWELL TIME	0~20			
		DAY->NIGHT	1~28			
		NIGHT->DAY	0~27			
	NIGHT COLOR	B/W, COLOR				
	INITIAL					
	RETURN					
COLOR	DWELL TIME	---				
	DAY->NIGHT	---				
	NIGHT->DAY	---				
B&W	NIGHT COLOR	B/W, COLOR				
	INITIAL					
	RETURN					
IMAGE	SHARPNESS	0~10				
	D-ZOOM	1.0X~16.0X				
	FREEZE	OFF, ON				
	GAMMA	0.45/0.50/0.55/0.60/0.65/0.70/0.75				
	FLIP	OFF, H-FLIP, V-FLIP, HV-FLIP				
	D-WDR	OFF, LOW, MIDDLE, HIGH				
	DEFOG	OFF				
		ON	MODE	AUTO, MANUAL		
		LEVEL	LOW, MIDDLE, HIGH			
		RETURN				
SHADING	OFF					
	ON	WEIGHT	0~100			
	RETURN					
INITIAL						
RETURN						
FOCUS ADJ	OFF, ON					
	OFF					
CAM TITLE	ON	CONTROLLER	CONTROLLER			
		LOCATION				
	RETURN					
	OFF					
SPECIAL	BOX	ON	ZONE NUM	0~15		
			ZONE DISP	OFF, ON		
			H-POS	0~60		
			V-POS	0~60		
			H-SIZE	0~60		
	V-SIZE	0~60				
	COLOR	0~13				
	TRANS	0~3				
	RETURN					
	POLYGON	ON	ZONE NUM	0~7		
ZONE DISP			OFF, ON			
POS0-X			0~120			
POS0-Y			0~120			
POS1-X			0~120			
POS1-Y	0~120					
POS2-X	0~120					
POS2-Y	0~120					
POS3-X	0~120					
POS3-Y	0~120					
Y LEVEL	0~20					
CB LEVEL	0~20					
CR LEVEL	0~20					
TRANS	0~3					
RETURN						
INITIAL						
RETURN						

MAIN MENU	1st Sub MENU	2nd Sub MENU	3rd Sub MENU	4th Sub MENU	5th Sub MENU
SPECIAL	MOTION	ON	DET WINDOW	WINDOW USE	0~3
				WINDOW ZONE	OFF, ON
				DET H-POS	0~60
				DET V-POS	0~60
				DET H-SIZE	0~60
	DET V-SIZE	0~60			
	RETURN				
	QUICK ZOOM	ON	SENSITIVITY	ZOOM SPEED	LOW, MIDDLE, HIGH
				TRACKING	OFF, ON
				REPEAT	OFF, ON
RETURN					
RETURN					
DIS	ON	OFF	RANGE	10%, 20%, 30%	
			FILTER	LOW, MIDDLE, HIGH	
			AUTO C	OFF, HALF, FULL	
			INITIAL		
			RETURN		
SYSTEM	LANGUAGE	ENG, CHN, CHN(S), JPN	FRAME RATE	1080_30P, 1080_25P, 720_60P, 720_50P, 720_30P, 720_25P	
			SDI OUT	HD-SDI, EX-SDI	
			APPLY		
			SDILEVEL	0~7	
			REBOOT	PUSH BUTTON	
	RETURN				
	FACTORY DEF	EXIT			

Function Description

0. SETUP

- EXPOSURE: Go sub menu for camera exposure control.
- WHITE BALANCE: Go sub menu for camera white balance control.
- WDR/BLC: Go sub menu for camera WDR or BLC action.
- DNR: Control noise reduction setting.
- DAY & NIGHT: Go sub menu for camera day & night control.
- IMAGE: Go sub menu for adjust image functions.
- SPECIAL: Go sub menu for special feature control.
- SYSTEM: Go sub menu for system control & information.

1. EXPOSURE

- BRIGHTNESS: Adjust image brightness value.
- LENS(IRIS): Select Lens control Type.
- MODE: Adjust AE control Mode.
- SHUTTER: Select shutter speed control type.
- SHUTTER SPEED: Adjust shutter speed at manual shutter mode.
- DSS: Adjust digital slow shutter control level.
- AGC MAX: Adjust max gain level for brightness control.

2. WHITE BALANCE

- MODE: Select white balance control mode.
- AUTO: Full auto control mode in color temperature range 2300K~10000K
- PUSH LOCK: Enable fix the control setting for specific environment. Push & release, for fix WB control setting
- MANUAL: Enable WB control setting by user's intention.
- > COLOR TEMP: Select color temperature range for WB control at manual mode
- > R-GAIN: Adjust red color gain for WB control at manual mode.
- > B-GAIN: Adjust blue color gain for WB control at manual mode
- COLOR GAIN: Adjust image brightness value.

3. WDR/BLC

- Setting WDR/BLC/HLC function
- LEVEL: adjust HLC/WDR Level
- BLC POSITION: Act in Backlight compensation mode.
- > H-POS: Select BLC control zone vertical position.
- > V-POS: Select BLC control zone horizontal position.
- > H-SIZE: Select BLC control zone vertical size.
- > V-SIZE: Select BLC control zone horizontal size.
- HLC COLOR: adjust HLC COLOR

4. DNR: Reduce image's noise

5. DAY & NIGHT

- MODE: Select DN(Digital Day & Night control) mode.
- AUTO: Camera controlled automatically to decide day or night environment using AGC calculation data.
- COLOR: Fix to mode at day environment setting. Make video image act in color.
- B&W: Fix to mode at night environment setting. Make video image act in B/W.
- DWELL TIME: Delay Time for change day or Night Mode at Auto mode.
- DAY->NIGHT: Threshold level for Change Day to Night .
- NIGHT -> DAY: Threshold level for Change Night to Day.
- NIGHT COLOR: Select color at night condition.

6. IMAGE

- SHARPNESS: Adjust image sharpness level.
- DZOOM: Select digital zoom magnification.
- FREEZE: OFF/ON
- GAMMA: Gamma Curve Select.
- FLIP: Select Vertical Mirror Setting or Horizontal flip setting.
- D-WDR: Digital wide dynamic range control.
- DEFOG: Enable Defog compensation.
- > LEVEL: Defog compensation Level change at Auto / Manual mode.
- SHADING: Enable lens shading compensation.

7. SPECIAL

- FOCUS ADJ: ON/OFF Focus Adjust chart.
- CAM TITLE: Setting Camera Title.
- PRIVACY: Adjust privacy mask status

- BOX
- > ZONE NUM.: Select private mask zone number.
- > ZONE DISP.: Select zone mask display on/off.
- > H-POS: Select zone horizontal position.
- > V-POS: Select zone vertical position.
- > H-SIZE: Select zone horizontal size.
- > V-SIZE: Select zone vertical size.
- > COLOR: Select mask zone color.
- > TRANS: Select transparent level.
- POLYGON
- > ZONE NUM.: Select private mask zone number.
- > ZONE DISP.: Select zone mask display on/off.
- > POS(0~3)X: Adjust X-POSITION
- > POS(0~3)Y: Adjust Y-POSITION
- > Y LEVEL: Select mask color (Y Level)
- > CB LEVEL: Select mask color (CB Level)
- > CR LEVEL: Select mask color (CR Level)
- > TRANS: Select transparent level.
- MOTION
- > DET WIDOW: Setting Motion window.
- > SENSITIVITY: Select the motion detect sensitivity level.
- > QUICK ZOOM: Setting Motion Quick zoom function.
- > MOTION OSD: Select the display Motion OSD.
- > TEXT ALARM: Select the display Motion Text alarm.
- DIS
- > RANGE: 10%/20%/30%, Set the compensation range.
- > FILTER: LOW/MIDDLE/HIGH, Correction filter for the worst case of the image.
- > AUTO C: OFF/HALF/FULL. Auto Centering to distinguish camera shake from PANNING. The camera always corrects the direction in which the image is positioned at the center of the image.
- FULL: The center of the correction area is completely corrected (PANNING is ignored) and only the periphery is centered.
- HALF:

8. SYSTEM

- LANGUAGE: ENG, CHN, CHN(S), JPN
- FRAME RATE: 1080_30P, 1080_25P, 720_60P, 720_50P, 720_30P, 720_25P
- SDI OUT: HD-SDI / EX-SDI
- APPLY: Apply all video setting changed at once. Use the Set button to apply.
- SDI LEVEL: When the SDI signal is reduced due to an increase in the cable connection length, you can adjust SDI LEVEL.(default 4)
- REBOOT: Reboot the camera.

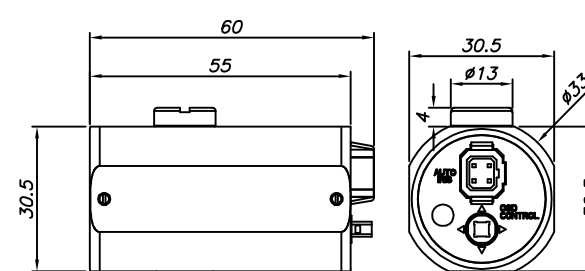
SPECIFICATIONS

Image Device	1/2.8" 2.1 Mega Pixel SONY Exmor CMOS
Video output mode	HD-SDI/EX-SDI 1.0: 1080p@30, 1080p@25, 720p@60, 720p@50 TV Out: NTSC / PAL selectable
Transmission Distance	HD-SDI : Color 150m(5C-HFBT) / EX-SDI 1.0: Color 300m(5C-HFBT)
Effective Pixels	1945(H) x 1097(V)
Unit cell size	2.9um(H) x 2.9um(V)
S/N Ratio	More than 50dB
Minimum Illumination	0.1Lux(AGC 20dB, DSS x2, F2.0)
Lens	C / CS Mount
Shutter speed	Auto / Manual selectable
HLC / BLC / WDR	OFF / HLC / BLC / WDR
3DNR	OFF / LOW / MIDDLE / HIGH
Controllable Max Gain	42dB
White Balance	AUTO / PUSH LOCK / MANUAL
Digital Zoom Ratio	1X ~ 16X
Digital Slow Shutter	OFF, X2 ~ X32
Privacy Masking	Zone 16 ea, On / Off
Day & Night	Digital Day & Night
OSD	Built-in
Operating Temperature	14°F~112°F (-10°C~+50°C)
Storage Temperature	-4°F~158°F (-20°C~+70°C)
Power Consumption	DC12V(±10%), Max. 230mA
Dimensions (mm)	30.5(W) x 30.5(H) x 55(D)
Weight	Approx. 113g

Specifications and designs are subject to change for improving the functionality of this product without notice.

DIMENSIONS Unit(mm)

CS-Mount



C-Mount

