

EIR42X-450VF	500 TV Lines
EIR42X-460VF	600 TV Lines
EIR42X-470VF	700 TV Lines

Operational Manual

42 IR Day & Night Effio-E Weatherproof Bullet Color Camera



FEATURES

- 1/3" Sony Ex-View HAD II CCD
- **Sony Effio-E DSP**
- 500 / 600 / 700 TV Lines
- 42 IR LED
- IR Distance up to 95ft / 30m
- 2.8~12.0mm Varifocal Lens
- **On-Screen Display (OSD)**
- IP65 Rating
- 3-AXIS Cable Management Bracket
- 420mA @ IR "on" / 120mA @ IR "off"
- 12V DC

This IR camera uses a high sensitive 1/3" Interline transfer Charge Coupled Device (CCD) image sensor and an all-state circuitry, which provides extremely long life and high reliability. This camera offers excellent image quality and is not subject to distortions from magnetic fields. This camera is an excellent choice for your CCTV system. It captures high-speed moving objects, the sensor changes the day/night mode automatically to show qualified color pictures during daytime and clear pictures at nighttime.



Please read the Manual before attempting to use this product.



CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN!



TO REDUCE THE RISK OF ELECTRICAL SHOCK,
DO NOT OPEN COVERS (OR BACK).
NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED
SERVICE PERSONNEL.



Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems).

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

CAUTION

1. Never point the camera toward the sun

Do not expose the lens directly to the sun or to strong light as this may damage the pick-up device.

2. Handle this camera with care

Avoid any shock or bumping of the camera. Improper handling could damage the camera.

3. Requires a proper operating environment

This camera is designed for indoor use. The allowable temperature range for operation of this camera is between -4°F ~ 122°F / -20°C ~ 50°C.

4. Clean the front face or lens

It is recommended that the surface be cleaned every 3~6 months. Cleaning should be done by using a chamois, a very fine soft cloth, lens tissue, or cotton tipped applicator and ethanol to carefully remove any fingerprint or dust.

5. Check the power source voltage

The power source voltage should be within the specified range. (Camera must meet the specifications). Camera must be connected to a surge protector at all times.

6. Objects and liquid entry

Never push objects of any kind into this camera as this may touch dangerous voltage points of short out parts that could result in a fire or electric shock. Never spill any kind of liquid on the video product.

7. Servicing

Do not attempt to service this video product by yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all service to qualified servicing personnel.

8. Damage requiring service

Unplug this video product from the wall outlet and refer service to qualified servicing personnel under the following conditions:

- a. When the power supply cord or plug is damaged.
- b. If liquid has been spilled, or objects have fallen into the video product.
- c. If the video product has been exposed to rain or water.
- d. If the video product has been dropped or the cabinet has been damaged.
- e. When the video product exhibits a distinct change in performance.

LIMITED WARRANTY

This product is covered under warranty for one (1) year from the date of purchase. The warranty will automatically be voided if any of the following occurs:

1. Camera sticker is removed

If the camera sticker is removed, we will not be able to confirm any information regarding when and where the product was purchased. We have no other way to verify the purchase record without the serial number on the camera sticker; therefore, it should not be removed.

2. Camera is modified in any way

If the camera is scratched, damaged, or modified in a manner not described in this manual, the warranty will be voided immediately. It is the customer's responsibility to keep the camera in good condition.

3. Video or power cable is cut

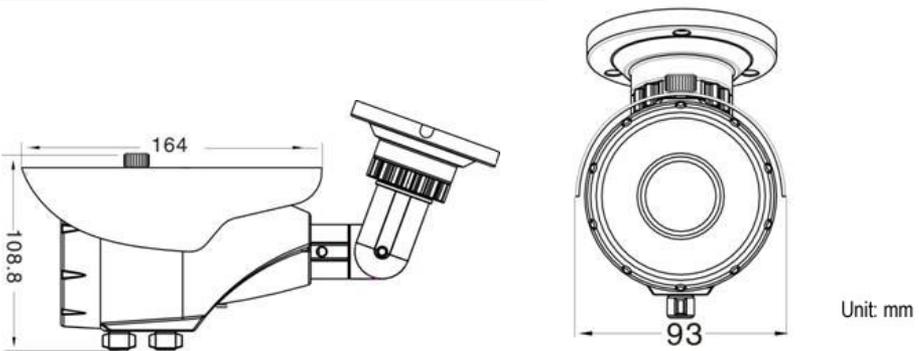
The video cable and the power cable should not be tampered with. Cutting or modifying of the cables will result in termination of the warranty.

PACKAGE CONTENTS

- One (1) IR Bullet Camera with power/video cable and sunshield
- One (1) Allen Wrench
- Three (3) Screws
- Three (3) Wall Anchors
- One (1) Mounting Guide Sticker
- One (1) Operational Manual

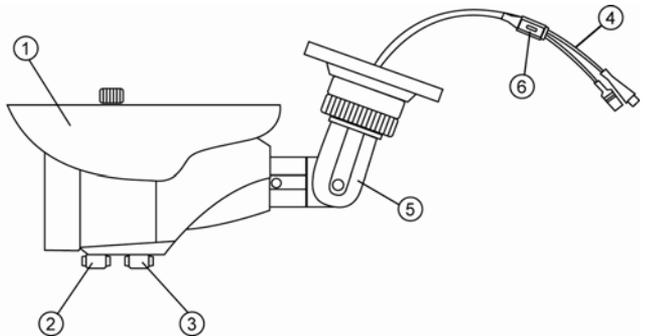
* For any returns, please include all components listed above with original packaging in **Resalable Condition**. **Absolutely No Returns** will be accepted if any component is missing/damaged.

DIMENSIONS



PARTS & FUNCTIONS

1. Sunshield Cover
2. Zoom Adjustor Knob
3. Focus Adjustor Knob
4. Video/Power Cable
5. 3-AXIS Bracket
6. OSD Multi-function button



OSD OPERATIONS

Attention:

- 1) Use the following 4 arrow buttons to navigate the menu: ← → ↑ ↓
Selection will have a gray background.
- 2) Use the “ENTER” button to confirm selection. Note: Options with “←” means it has a submenu.
- 3) The OSD main menu has two pages. The user can switch between the two pages by “NEXT←” or “BACK←”.
- 4) Select the “SAVE ALL” to save any changed settings, and then press “ENTER”.
Otherwise it will revert back to the original when the camera reboots.

The first page of the main menu is shown below:

SETUP MENU	
LENS	MANUAL
SHUTTER/AGC	AUTO ←
WHITE BAL	ATW ←
BACKLIGHT	OFF
PICT ADJUST	←
ATR	OFF
MOTION DET	ON ←
NEXT ←	
EXIT ←	SAVE
ALL	

The second page of the main menu is shown below:

SETUP MENU	
PRIVACY	OFF
DAY / NIGHT	AUTO ←
NR	←
CAMERA ID	OFF
SYNC	INT
LANGUAGE	ENGLISH
CAMERA RESET	
BACK ←	
EXIT ←	SAVE
ALL	

1. LENS

LENS	MANUAL
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“LENS” has 2 options —“MANUAL” and “AUTO”. (This camera cannot install the auto-iris lens temporarily)

- 1) MANUAL - The default setting is manual. If the installed lens is manual type, please select this option.
- 2) AUTO - If the installed lens is manual one, please select this option. The user can select the option by “RIGHT” or “LEFT”.

LENS	AUTO ←
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The auto lens has the following parameters for the user to set. Enter the setting page by using the “ENTER” button.

TYPE	DC
MODE	AUTO
SPEED	80

[TYPE]: The drive mode of auto lens (or the lens type). It has 2 options-- DC and VIDEO. DC means direct current control of iris lenses, while VIDEO means video control of iris lenses.

[MODE]: 3 options for adjusting iris--AUTO, OPEN and CLOSE. AUTO means it can automatically adjust the size of the iris according to the light. OPEN means open the iris all the time, while CLOSE means close the iris.

[SPEED]: The sensitivity of the adjustment of the iris when choosing AUTO. The setting value range is 0~255.

2. SHUTTER / AGC

SHUTTER/AGC	AUTO ←
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It has 2 options--AUTO and MANUAL.

1) AUTO "AUTO" is the default setting.

AUTO SETUP	
HIGH LUMINANCE	
MODE	SHUT
BRIGHTNESS	24
LOW LUMINANCE	
MODE	AGC

[SHUT]: (The setting value range of brightness is 0~255.)

AGC (AGC / OFF) (The setting value range of AGC brightness is X0.25, X0.50, X0.75 and X1.00.)

2) MANUAL

MANUAL SETUP	
MODE	SHUT+AGC
SHUTTER	1/50
AGC	6.00

[SHUTTER]: The setting value range of SHUTTER is 1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000.

[AGC]: The setting value range of AGC is 6.00, 12.00, 18.00, 24.00, 30.00, 36.00, 42.00, 44.8.

3. WHITE BALANCE



There are 7 types of white balance mode.

- 1) ATW - ATW means automatic tracking white balance. In the range of 1800K~10500K, it can continuously survey the color temperature to automatically adjust the white balance. This mode is prior. The setting menu is show as below:

ATW	
SPEED	239
DELAY CNT	016
ATW FRAME	X1.00
ENVIRONMENT	INDOOR

[SPEED]: (The setting value range of SPEED is 0~255.)

[DELAY CNT]: (The setting value range of Delay CNT is 0~255.)

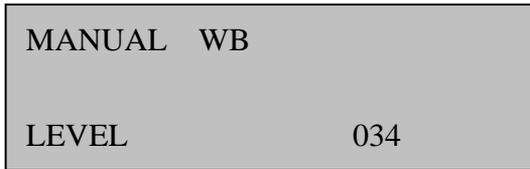
[ATW FRAME]: (The setting value range of ATW FRAME is X1.00 · X1.50 · X2.00)

[ENVERONMENT]: 2 options-- INDOOR and OURDOOR.

- 2) PUSH - An auto white balance control mode. If the color temperature in the range of 2300K~10000K, it can exactly adjust the white balance.
- 3) USER1 - User-defined white balance mode 1. It can achieve the best effect by adjusting BLUE or RED. The setting page is shown below:

UESE1 WB	
B-GAIN	030
R-GAIN	033

- 4) USER2 - User-defined white balance mode 2. The settings are like above.
- 5) ANTI CR - Used in the environment where there is a serious chromatic difference.
- 6) MANUAL - Adjust the white balance mode manually. In specific lighting environment, it can achieve the best white balance results. The setting value range of Level is 0~255.



- 7) PUSH LOCK An auto white balance lock mode.

4. BACKLIGHT COMPENSATION (BLC)



Backlight compensation include the following 3 options:

- 1) OFF - Close the backlight compensation function. The default setting is OFF.
- 2) Open the backlight compensation function.
- 3) Shelter from the over brightness light, such as: car license plate recognition light.
HLC likes ECLP function.

5. PICTURE ADJUST



Choose “Enter←” button, then enter into the picture adjusting menu.

PICT ADJUST	
MIRROR	OFF
BRIGHTNESS	000
CONTRAST	128
SHARPNESS	128
HUE	128

- 1) MIRROR - Mirror image the whole picture. The default setting is OFF.
- 2) BRIGHTNESS - Adjust the entire brightness of the whole picture. The setting value range is 0~255.
- 3) CONTRAST - The setting value range is 0~255
- 4) SHARPNESS - The setting value range is 0~255
- 5) HUE - The setting value range is 0~255
- 6) GAIN - The setting value range is 0~255

6. ATR

ATR	OFF
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ATR is similar to WDR function. While bright and dark parts are displayed on the screen simultaneously, this function can help the user see the various parts of the screen more clearly. And it can be adjusted according to different circumstances. \

ATR	
LUMINANCE	MID
CONTRAST	MID

- 1) LUMINANCE - 3 options—HIGH, MID and LOW
- 2) CONTRAST - 5 options—HIGH, MIDHIGH, MID, MIDLOW, LOW

7. MOTION DETECTION

MOTION DET ON ←

When a moving object appears in the set detection area, the camera will alarm. We can enter the setting menu if the function is on.

MOTION DET		
DETECT SENSE		111
BLOCK DISP		OFF
MONITOR AREA		ON
AREA SEL		1/4
TOP		000
BOTTOM		000
LEFT		000
RIGHT		000

- 1) DETECT SENSE - Used to set the camera's detect sensitivity. The setting value range is 0~127.
- 2) BLOCK DISP - A block display switch. If the function on, the moving object would be traced by a flashing square grid.
- 3) MONITOR AREA - A monitoring area switch. If the function on, the square grid will appear in the monitor area.
- 4) AREA SEL - There are 4 monitor areas that can be set. The size can be adjusted by 4 buttons--up, down, left and right. The default setting is 0. If the user does not adjust the area size, the square grid will not appear.

8. PRIVACY AREA SHIELD

PRIVACY	OFF
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The user can set privacy area on the image randomly. If the function on, the user can enter the setting menu. The setting page is show as below:

PRIVACY	
AREA SEL	1/8
TOP	000
BOTTOM	000
LEFT	000
RIGHT	000
COLOR	1
TRANSP	1 00

- 1) AREA SEL - There are 8 zones that can be set. Their size can be adjusted by 4 buttons--up, down, left and right. The default setting is 0. If the user does not adjust the area size, the square grid will not appear.
- 2) COLOR - For every zones' color setting, the user has 8 options—red, green, blue, light green, light blue, light red, white and black.
- 3) TRANSP - The function is used for setting privacy area's transparency. There are 4 options--0.00 \ 0.05 \ 0.75 and 1.00 .
- 4) MOSAIC - Set the privacy area to mosaic. Notice the privacy area will be dim if the transparency is too high. It will be clear if the setting value is adjusted to 0.00.

9. DAY/NIGHT MODE

DAY/NIGHT	AUTO ←
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The Day/night Mode has 3 options: Auto, Color and B/W.

- 1) AUTO - If the setting is set to “Auto”, the camera will switch the mode automatically. In the daytime, the camera is in color to get perfect color; whereas, the camera is in B/W at night.

DAY/NIGHT	
BURST	ON
DELAY CNT	010
DAY→NIGHT	003
NIGHT←DAY	005

[BURST]: (It is a Burst switch.)

[DELAY CNT]: (It's used to set mode conversion delay time. The setting value range is 0~255.)

DAY→NIGHT]: (It's used for set DAY→NIGHT switching sensitivity. The setting value range is 0~255.)

[NIGHT←DAY]: (It's used for set NIGHT←DAY switching sensitivity . The setting value range is 0~255.)

- 2) COLOR - Used to switch the mode to Color manually
- 3) B/W - Used to switch the mode to B/W manually. If the user meets Burst interference, the user can turn off the “BURST”.

B/W	
BURST	ON

10. NR

The settings of “NR MODE” has 4 options—Y/C, Y, C and OFF. The settings can be adjusted by Level Y and C.

NR	←
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NR	
NR MODE	Y/C

12. SYNCHRONIZATION MODE



13. LANGUAGE



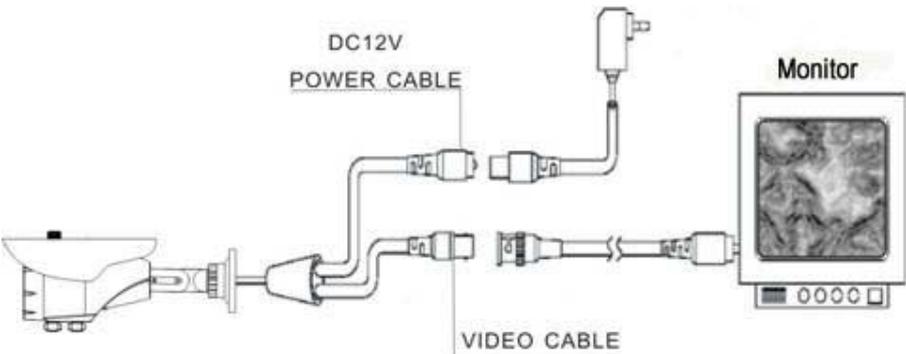
There are 8 languages: Chinese, English, Japanese, German, French, Russian, Portuguese and Spanish.

14. CAMERA RESET



Used to restore to factory defaults. If parameter settings are disordered, please choose “CAMERA RESET”, and then press “ENTER”.

CONNECTION



TROUBLESHOOTING

Item	Problems	Remedies
1	No picture or unstable	Check the connection of video line or power line
2	The image is so blurred	1. Checking is there something dirt on the lens, then use customized lens paper or cotton buds with alcohol drenched to clean. 2.check the focus length and OSD settings
3	The image is so dim	Adjust the CNT of monitor and iris.
4	No motion detection frame and privacy shaded frame	Check the option is ON or OFF. Or check the menu parameters
5	Screen color cast in the special environment	Adjust WEB mode or direction
6	The screen glittering	The camera might face to the sun, TV set or computer.
7	Functions are disorder and could not adjust	Restore default settings
8	The camera works abnormal; the surface over-heat; has p	Please cut off the power supply

smell, smoke etc.

connection of power supply. Then send the camera to professionals for maintenance.

INSTALLATION

NOTES:

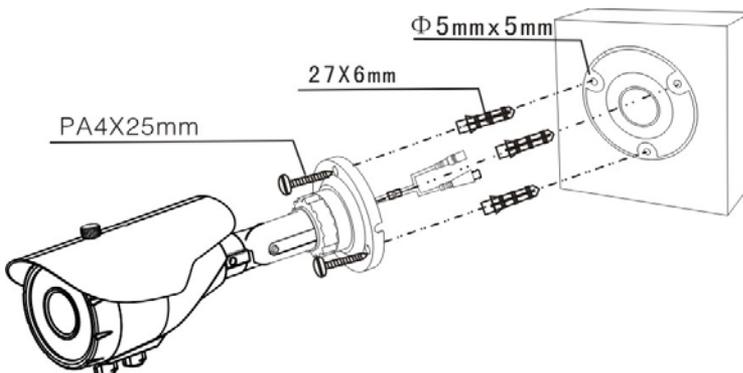
- Avoid pointing the lens directly towards the sun or intense sources of light even when the camera is off. The subject must not be backlit.
- Do not install the camera in a place where temperature is below -20°C / -4°F or above 50°C / 122°F .
- Avoid the following location for camera installation:
 - Near an object that releases a strong magnetic or electric field.
 - Areas with strong vibrations.

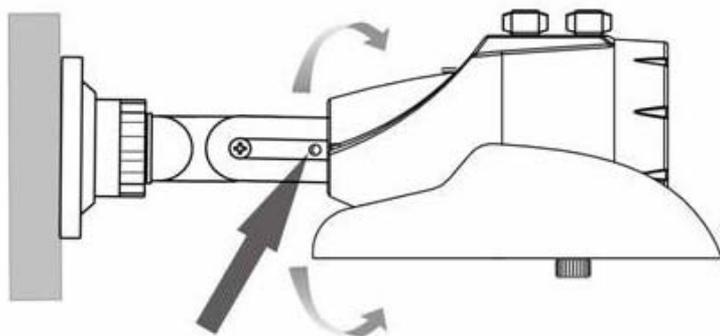
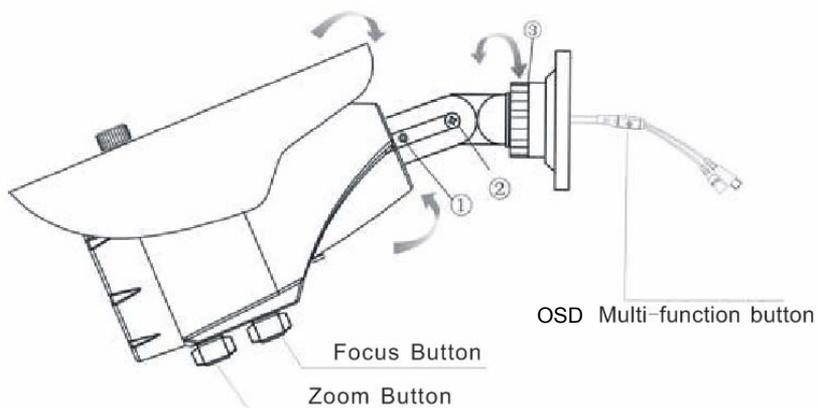
Step 1. Adhere the $\text{Ø}84\text{mm}$ position sticker on the wall.

Step 2. Drill a $\text{Ø}5\text{mm}$ hole on the position selected, and insert the plastic plug into the hole.

Step 3. Put the power cable, communication cable and video cable through bracket hole and leave sufficient length of connect cable.

Step 4. Fix the bracket on the wall with 3pcs PA4×25mm screws.





SPECIFICATIONS

Model (NTSC)	EIR42X-450VF	EIR42X-460VF	EIR42X-470VF
Model (PAL)	EIR42X-450VFP	EIR42X-460VFP	EIR42X-470VFP
Image Sensor	1/3" Sony Ex-View CCD II		
DSP	Sony Effio-E		
Total Pixel	270k	410k	520k
Synchronizing System	Internal		
Resolution	500 TV Lines	600 TV Lines	700 TV Lines
Minimum Illumination	0 Lux @ IR "on" / F1.2		
S/N Ratio	> 52dB		
Auto Gain Control	Auto / Manual, 8 setting values		
White Balance	ATW / PUSH / USER1 / USER2 / ANTI CR / MANUAL / PUSH LOCK		
Back Light Compensation	Backlight compensation, highlighting compensation, WDR		
Day & Night Function	Auto / Manual ; Color / B&W		
Gamma	0.45		
Electronic Shutter	1/60-1/100,000s (NTSC) ; 1/50-1/100,000s (PAL) Auto / Fixed		
Video Output	Composite Video 1.0Vp-p/75 Ohms		
Lens	2.8mm-12.0mm Varifocal Lens		
IR LED	42 IR LED		
IR Wavelength	850nm		
IR Distance	95ft / 30m		
Control Mode	OSD Menu, Supports 8 languages		
Motion Detection	Box tracking and 4 zones ; set the position and size randomly		
Privacy	8 zones ; set the position and size randomly (8 colors)		
IP Rating	IP65		
Power Supply	12V DC		
Power Consumption	IR ON	420mA max.	
	IR Off	120mA max.	
Operating Temperature	-4°F ~ 122°F / -20°C ~ 50°C		
Dimension	6.46(L) x 4.28(H) x 3.66 (Ø) inches / 164(L) x 108.8(H) x 90(Ø) mm		
Weight	2.2 lbs / 1 kg		

* Specifications are subject to change without notice