

# HIGH PERFORMANCE CCTV 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 300mA 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 unregulated power supply is applied, product warranty will be out of subject.**
2. It is recommended that the camera is used with a monitor that has a CCTV quality 75 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 smear on the picture and possible damage to the CCD.
5. Do not remove the serial sticker for the warranty service.

## CAUTIONS

### Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking shown on the product or its literature, indicate 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.

This product should not be mixed with other commercial wastes 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.  
Household users should contact either the retailer where they 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 to persons.

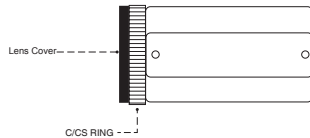
This symbol is intended to alert the user to the presence of important operating and maintenance(servicing) instruction in the literature accompanying the appliance.

## COMPONENTS

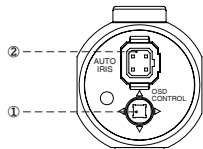
|                                   |  |
|-----------------------------------|--|
| High Performance DSP Color Camera |  |
| Auto Iris Lens Connection Plug    |  |
| C-mount Adaptor Ring              |  |
| Spare Screw (Machine 2x2) - 2ea   |  |
| Operation Manual                  |  |

## NAME AND FUNCTION

### FRONT



### BACK



1. MENU BUTTON
2. UP BUTTON
3. DOWN BUTTON
4. LEFT BUTTON
5. RIGHT BUTTON
6. 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 fingerprints on the lens can cause inferior image quality in low light level conditions.

#### When using an auto iris lens

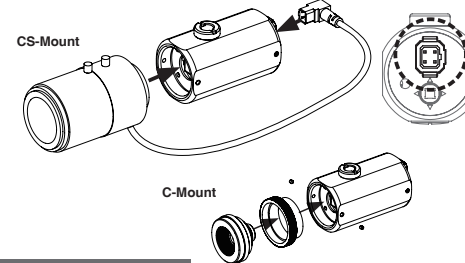
1. Please peel off about 8mm of the outer skin of the auto iris lens cable.
2. Please peel off about 2mm of the outer skin of the insulated conductor inside the lens cable.
3. Please remove the cover of the auto iris lens connection plug and solder the lens cable to the connector pin in the plug.

#### \*PIN ASSIGNMENT OF THE LENS CONNECTOR

- Signal for DC + iris lens  
 Pin 1: D+AMP  
 Pin 2: DAMP+  
 Pin 3: DRV+  
 Pin 4: DRV-(GND)
- Signal for Video + iris lens  
 Pin 1: Power source +9 DC,50mA MAX.  
 Pin 2: N.C.(Not used)  
 Pin 3: Video Signal 0.7Vp-p 10K ohms.  
 Pin 4: Shield, ground
- 

4. Please replace the auto iris lens connection plug cover and take off the CCD 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.



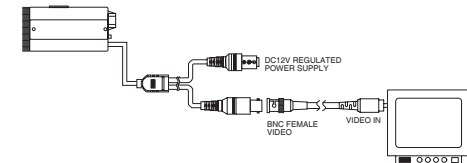
### Back Focus Procedure

- 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
- 

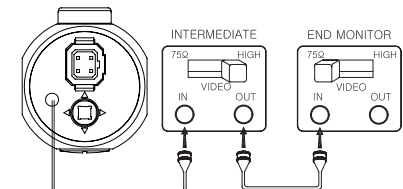
#### NOTE

- 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 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.



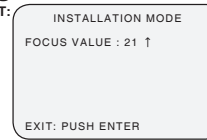
# OSD MANUAL

| MAIN MENU   | 1st Sub MENU | 2nd Sub MENU                | 3rd Sub MENU  | 4th Sub MENU   |  |
|-------------|--------------|-----------------------------|---|--|--|
| LENS        | MANUAL       |                             |   |  |  |
|             |              | AUTO                        | TYPE  | DC / VIDEO   |  |
|             |              |                             | SPEED   | 000 ~ 255  |  |
| EXPOSURE    | AUTO         | HIGH LUMINANCE              | MODE  | AUTO IRIS, SHUT+AUTO IRIS                                      |  |
|             |              |                             | SHUT MAX  | 1/50(PAL), 1/60(NTSC), 1/100(NTSC), 1/120(PAL)<br>1/250, 1/500 |  |
|             |              |                             |   | 1/1000 ~ 1/10000 (adjusted 1/1000sec measure)                  |  |
|             |              |                             |   | 1/30K, 1/50K, 1/70K, 1/90K, 1/100K                             |  |
|             |              |                             |   | OFF, ON  |  |
|             |              | BRIGHTNESS                  | 000 ~ 255   |  |  |
|             |              | RETURN                      |   |  |  |
|             |              | LOW LUMINANCE               | MODE  | OFF, AGC, SLOW, SLOW ->AGC<br>AGC ->SLOW, AGC->SLOW->AGC       |  |
|             |              |                             | AGC MAX   | 6, 12, 18, 24, 30, 36  |  |
|             |              |                             | DSS MAX   | 2, 4, 8, 16, 32, 64, 128, 256                                  |  |
|             | BRIGHTNESS   |                             | x0.25,x0.50,x0.75,x1.00   |  |  |
|             | RETURN       |                             |   |  |  |
|             | MANUAL       | MODE                        | SHUT, SLOW  |  |  |
|             |              | SHUTTER                     | 1/50(PAL), 1/120(PAL)<br>1/60(NTSC), 1/100(NTSC)<br>1/250, 1/500, 1/1000, 1/2000,<br>1/4000, 1/10000, 1/50000, 1/100000 |  |  |
|             |              | AGC                         | 6, 12, 18, 24, 30, 36, 42, 44, 8  |  |  |
| RETURN      |              |                             |   |  |  |
| RETURN      |              |                             |   |  |  |
| WHITE BAL   | ATW          | SPEED                       | 000 ~ 255   |  |  |
|             |              | DELAY CNT                   | 000 ~ 255   |  |  |
|             |              | ATW FRAME                   | x0.50,x1.00,x1.50,x2.00   |  |  |
|             |              | ENVIRONMENT                 | INDOOR,OUTDOOR  |  |  |
|             |              | RETURN                      |   |  |  |
|             | PUSH         |                             |   |  |  |
|             | USER1        | B-GAIN                      | 000 ~ 255   |  |  |
|             |              | R-GAIN                      | 000 ~ 255   |  |  |
|             | USER2        | B-GAIN                      | 000 ~ 255   |  |  |
|             |              | R-GAIN                      | 000 ~ 255   |  |  |
| ANTI CR     |              |                             |   |  |  |
| MANUAL      | LEVEL        | 000 ~ 128                   |   |  |  |
| PUSH LOCK   | RETURN       |                             |   |  |  |
| DAY & NIGHT | AUTO         | DELAY CNT                   | 000 ~ 015   |  |  |
|             |              | DAY -> NIGHT                | 000 ~ 254   |  |  |
|             |              | NIGHT -> DAY                | 001 ~ 255   |  |  |
|             |              | BURST                       | ON, OFF   |  |  |
|             | BW           | BURST                       | ON, OFF   |  |  |
| COLOR       | RETURN       |                             |   |  |  |
| WDR/BLC     | WDR MODE     | ON                          | LEVEL 000 ~ 015   |  |  |
|             |              | OFF                         | CONTRAST1 000 ~ 007<br>CONTRAST2 000 ~ 004  |  |  |
|             | BLC MODE     | ON                          | BLC ZONE TOP, LEFT, RIGHT, BOTTOM, CENTER   |  |  |
|             |              | OFF                         | LEVEL 000 ~ 254   |  |  |
| HLC MODE    | ON, AUTO     | CLIP LEVEL 000 ~ 255        |   |  |  |
|             | OFF          | SCALE 000 ~ 015             |   |  |  |
| IMAGE       | MIRROR       | OFF, H FLIP, VFLIP, HV FLIP |   |  |  |
|             |              | 2DNR MODE                   | ON, OFF   |  |  |
|             |              | 2DNR LEVEL                  | 000 ~ 015   |  |  |
|             |              | 3DNR MODE                   | ON, OFF   |  |  |
|             | DNR          | 3DNR LEVEL                  | 000 ~ 063   |  |  |
|             |              | SHARPNESS                   | 000 ~ 015   |  |  |
|             |              | CONTRAST                    | 000 ~ 063   |  |  |
|             |              | FREEZE                      | ON, OFF   |  |  |
| EZOOM       | 1x ~ 3x      |                             |   |  |  |
| RETURN      |              |                             |   |  |  |

| MAIN MENU   | 1st Sub MENU   | 2nd Sub MENU | 3rd Sub MENU   | 4th Sub MENU   |  |
|-------------|----------------|--------------|--|--|--|
| SPECIAL     | CAMERA TITLE   | ON           | EDIT MODE  |  |  |
|             |                | OFF          | RETURN   |  |  |
|             | LANGUAGE       |              | ENGLISH, 中文, Русский, ESPAÑOL, 日本語, DEUTSCH, FRANCAIS, PORTUGUÉS<br>HINDI, TAMIL, TURKISH, ARABIC, FARSI |  |  |
|             |                | PRIVACY      | AREA SEL   | 1 ~ 15   |  |
|             |                |              | MODE   | ON, OFF  |  |
|             |                |              | POSITION   | POSITION EDIT  |  |
|             |                |              | COLOR  | WHITE, BLACK, RED, GREEN, BLUE, YELLOW, CYAN, MAGENTA  |  |
|             | TRANSPARENCY   |              | 0.00, 0.50, 0.75, 1.00   |  |  |
|             | MOSAIC         | ON, OFF      |  |  |  |
|             | RETURN         |              |  |  |  |
|             | MOTION DETECT  | ON           | DETECT SENSE   | 000 ~ 127  |  |
|             |                |              | BLOCK DISP   | ON, OFF  |  |
|             |                | OFF          | MONITOR AREA   | AREA SEL: 1 ~ 4<br>MODE: ON, OFF<br>TOP: 000 ~ 015<br>BOTTOM: 000 ~ 015<br>LEFT: 000 ~ 023<br>RIGHT: 000 ~ 023<br>RETURN |  |
|             |                |              | RETURN   |  |  |
|             | FACTORY DFAULT |              |  |  |  |
| EXIT        |                |              |  |  |  |
| SAVE & EXIT |                |              |  |  |  |

## HIDDEN MENU

•RIGHT:



## SPECIFICATION

|                       | NTSC  | PAL                      |
|-----------------------|---|--------------------------|
| Signal Format         | 1/3" SONY Double Scan Super HAD CCDII   |                          |
| Image Device          | 2 : 1 Interlace   |                          |
| Scanning System       |   |                          |
| Scanning Frequency    | 15.734KHz(H),<br>59.94Hz(V)   | 15.625KHz(H),<br>50Hz(V) |
| Total Pixels          | 1028(H) X 508(V)  | 1028(H) X 596(V)         |
| Effective Pixels      | 976(H) X 494(V)   | 976(H) X 582(V)          |
| H.Resolution          | 750TV Lines   |                          |
| S/N Ratio             | More than 50dB(3DNR ON)   |                          |
| Min.Illumination      | 0.1Lux(Color) / 0.1Lux(BW)<br>(30IRE@F1.4, AGC:30dB)<br>0.000001Lux(DSSx256)  |                          |
| Sync System           | Internal  |                          |
| Gamma                 | r= 0.45   |                          |
| Video Output Level    | 1.0 Vp-p Composite(75Ω)   |                          |
| Lens                  | C/CS Mount (MANUAL / DC / VIDEO)  |                          |
| Digital Zoom Ratio    | 3x  |                          |
| Electronic Shutter    | 1/60 ~ 1/100,000sec   | 1/50 ~ 1/100,000sec      |
| Digital Slow Shutter  | 2 ~ 256 Field   |                          |
| WDR                   | OFF / ON (Level adjustable)   |                          |
| BLC                   | OFF / ON(Level adjustment, Area selection)  |                          |
| HLC                   | ON / AUTO / OFF (Level adjustable)  |                          |
| AGC                   | OFF, 6 ~ 36dB   |                          |
| DNR(2D/ 3D)           | ON / OFF (Level adjustable)   |                          |
| Image Function        | MIRROR(OFF/H- Flip/V- Flip/HV- Flip),<br>Freeze, Contrast, Sharpness  |                          |
| Day & Night           | COLOR / BW / AUTO(DIGITAL D/N)  |                          |
| Motion Detection      | 4 Zones (Level adjustable, Area adjustment)   |                          |
| White Balance         | ATW / PUSH / USER1 / USER2 /<br>ANTI CR / MANUAL / PUSH- LOCK   |                          |
| OSD                   | Built in (Joystick)   |                          |
| Language              | ENGLISH / JAPANESE / GERMAN /<br>FRENCH / RUSSIAN / PORTUGUESE /<br>SPANISH / CHINESE / HINDI / TAMIL /<br>TURKISH / ARABIC / FARSI |                          |
| Operating Temperature | 14°F~ 122°F(- 10°C~ +50°C)  |                          |

|                     |                               |
|---------------------|-------------------------------|
| Storage Temperature | -4°F~ 140°F(-20°C~ +60°C)     |
| Humidity            | Less than 80%                 |
| Dimension           | 30.5(W) x 30.5(H) x 55(D)     |
| Power Consumption   | DC12V DC12V(±10%), Max. 150mA |
| Weight              | Approx. 113g                  |

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

## DIMENSIONS Unit(mm)

