

BX7WDR960

960H/700 Line, True Wide Dynamic Range
True Day/Night, 3DNR, OSD



Lens sold separately.

PRODUCT FEATURES

- Sony 960H Effio-V Chip
- 700 Line Resolution
- True Wide Dynamic Range
- True Day/Night Mechanical IR Cut Filter
- Sense-up / Slow Shutter Speed
- 12VDC/24VAC Dual Voltage Power
- Easy Side Mount Back Focus Adjustment
- OSD Control of All Major Functions
- 3D Digital Noise Reduction



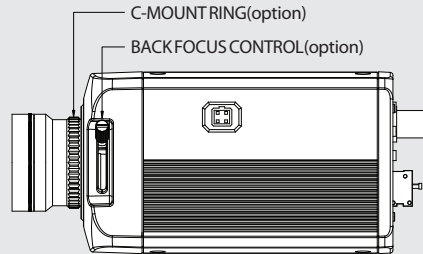
If the product is to be put out of operation definitively, take it to a local recycling plant for a disposal which is not harmful to the environment.

DESCRIPTION OF OPERATION

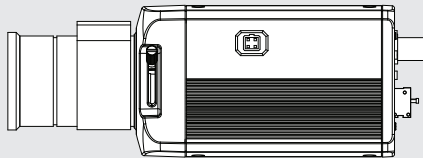
1. Remove the protective rubber before installing a CS mount lens. (If you use a C mount lens, add the C mount ring.)
2. Connect the video output jack to the monitor video in jack.
3. Connect power supply. Check the voltage.

LENS CONNECTION

1. Manual iris lens
 - 1) Before mounting a lens, please check whether it is a C mount or CS mount lens.
 - 2) CS mount lens : After removing the protective rubber, attach the lens.
 - 3) C mount lens : Before installing the lens, attach the C mount ring to the camera.
 - 4) Set the LENS mode to "manual" by OSD.



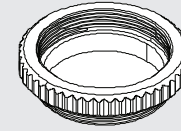
2. Auto iris lens
 - 1) Attach a DC lens just like the manual lens connection above.
 - 2) Connect the lens plug to the auto iris lens connector on the rear panel of the camera.
 - 3) Set the LENS mode to DC and adjust DC level by OSD.



| Auto Iris Lens Connector | |
|--------------------------|----------------|
| ② | DC-TYPE |
| ① | ① DAMP COIL - |
| | ② DAMP COIL + |
| | ③ DRIVE COIL + |
| ④ | ④ DRIVE COIL - |

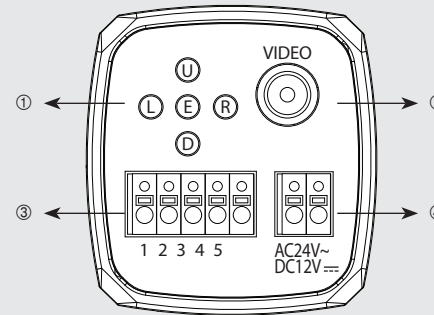
3. Back focus control
Set the back focus of the camera by using the side lever after lens has been installed.

ACCESSORIES



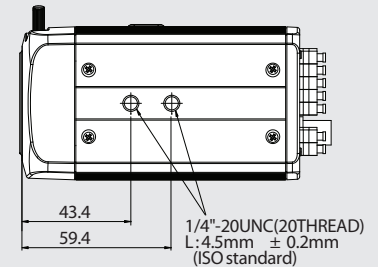
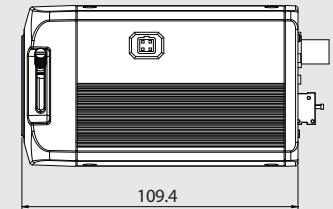
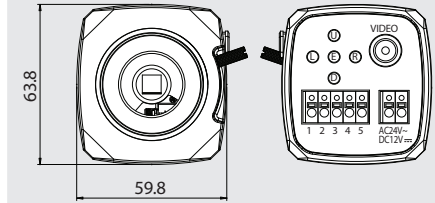
C MOUNT RING

OVERVIEW



- ① Menu setup buttons :
 - ENTER : Used to access the menu and confirm selection.
 - Up, Down : Used to move the cursor to up or down.
 - Left, Right : Used to move the cursor to left or right and change the value.
- ② Video output : Used to connect the video monitor.
- ③ Input/Output terminal :
 1. GND : GROUND terminal
 2. D/N IN : Switch to Day & Night Mode by connecting an external signal to this port (Using an 'EXT 1' or 'EXT 2' mode in Day&Night menu)
 3. MD OUT : Not available
 4. RS-485A : Connect the control unit via a twisted, 2-conductor line to the port. RS-485A(+)
 5. RS-485B : Connect the control unit via a twisted, 2-conductor line to the port. RS-485B(-)
- ④ Power input terminal: You can connect 12V DC or 24V AC.

DIMENSION



TROUBLESHOOTING GUIDE

Before calling service, check the following points for possible misuse.

| Problem | Check point |
|----------------------------|--|
| Too dark or bright picture | Readjust the contrast or brightness controls on the monitor. |
| No Power | Check for power connection. |
| Poor picture quality | Clean the camera lens. Readjust lens focus. |
| Shrinking picture | Check the condition of the power sources. |

If you can't correct the problem after going through this chart, contact a service professional for further assistance.

SPECIFICATION

| | |
|----------------------|--|
| Model No. | BX7WDR960 |
| Image Sensor | 1/3" SONY SUPER HAD II CCD (WDR-960H) |
| Effective Pixel | 976(H) x 494(V) Pixel(NTSC) 976(H) x 582(V) Pixel(PAL) |
| Cell Size | 5.0µm(H) x 7.4µm(V)(NTSC) 5.0µm(H) x 6.25µm(V)(PAL) |
| Scanning System | 2:1 Interlace |
| Sync. Type | Internal, External (L/L) |
| Resolution | Color : 700 TV-Line, B/W : 800 TV-Line |
| S/N | 52dB or More(AGC OFF) |
| Video Output | 1.0 Vp-p(Sync. Negative) Termination 75Ω |
| Min. Illumination | COLOR : 0.15 Lux(F/1.2), 0.0005Lux(Sense up) B/W : 0.05 Lux(F/1.2), 0.0002Lux(Sense up) |
| Gamma | γ= 0.45 typ. |
| OSD | Yes(Multi Language) |
| White Balance | ATW(1,800°K~10,500°K)/PUSH/USER1/ USER2/ANTI CR/PUSH LOCK/MANUAL |
| Shutter Speed | 1/60(1/50) ~ 1/100,000sec |
| Sense up | Auto/OFF |
| Backlight | OFF / WDR / HLC / BLC |
| AGC | 6~44.8DB |
| DNR(3D) | 0~6 |
| Motion Detection | ON/OFF Selectable(4 Zone) |
| Privacy Zone | ON/OFF Selectable(15 Zone) |
| Mirror | OFF / V FLIP / H FLIP / ROTATE |
| Day & Night | ICR(AUTO, COLOR, B/W, EXT) |
| Blemish Compensation | YES |
| DIS | ON / OFF |
| Digital Zoom | ON / OFF |
| Communication | RS-485(Pelco-D), Coax(Pelco-C) |
| Lens | CS MOUNT |
| Power Supply | DC 12V/AC 24V Dual voltage |
| Current Consumption | Max. 250mA(at 12V DC, 24V AC) |
| Operation Temp. | 14°F ~ 122°F |
| Dimension | 59.8(W) x 63.8(H) x 109.4(D)mm |
| Weight | Approx. 300g |

OSD MENU

| Main Menu | Select Menu | Sub Menu | Summary | | |
|---|---|---|--|-----------|-----|
| SETUP MENU 1/2 | | | | | |
| SCENE SELECT | CUSTOM, INDOOR, OUTDOOR, BACKLIGHT, ITS | | Refer to 'ADVANCED MENU' | | |
| PICT ADJUST | BRIGHTNESS | 000~255(128) | Set the screen brightness | | |
| | CONTRAST | 00~63(32) | Set the screen contrast | | |
| | SHARPNESS | 00~15(08) | Set the screen sharpness | | |
| | HUE | 000~127(064) | Adjust the hue | | |
| EZOOM | COLOR GAIN | 000~255(128) | Adjust the color gain | | |
| | OFF | | Deactivates the E-ZOOM | | |
| | ON ↓ | MAG : 000~255(000) PAN : 000~1023(512) TILT : 000~511(256) | Selection of Digital zoom magnification Panning the screen Tilting the screen | | |
| DIS | OFF | | Deactivates Digital Image Stabilizer | | |
| | ON ↓ | | Activates Digital Image Stabilizer(You can't use the E-Zoom function when DIS is on) | | |
| PRIVACY MASK | | | Adjust the settings of privacy 15 areas with 8 colors(Enable mosaic) | | |
| MOTION DET | OFF | | Deactivates motion detection function | | |
| | ON ↓ | Detect sense, Detect interval Block DISP, MASK area, Monitor area | Select motion detection zone up to 4 areas (When motion is detected, message or digital output will be displayed.) | | |
| SYS SETTING | 1. SYNC MODE | | | | |
| | INT | | Internal Sync with 12V DC power | | |
| | L.L. ↓ | (automatically detected) | External Sync with 24V AC power (You can't use 12V DC. Dual power only) | | |
| | 2. LENS | | | | |
| | AUTO ↓ | Type: DC/Video Mode: Auto/Open/Close Speed: 000~255(031) | Select Auto Iris lens | | |
| | MANUAL | | Select Manual Iris lens | | |
| | 3. FLIP | | | | |
| | FLIP | OFF/V/H/HV | Activates Image mirror | | |
| | 4. LCD/CRT | | | | |
| | CRT | | Select CRT Monitor | | |
| | LCD | | Select LCD Monitor | | |
| | 5. COMMUNICATION(Auto Detect Pelco-D protocol) | | | | |
| | ADDRESS | | Address : 001~255 | | |
| | BAUDRATE | | 2,400~115,200bps | | |
| | PARITY | OFF/ODD/EVEN | Select PARITY BIT | | |
| 6. CAMERA ID | | | | | |
| OFF | | No title displays on the screen | | | |
| ON ↓ | (26 letters & 2 lines) | Display the camera's ID on the screen | | | |
| SETUP MENU 2/2 | | | | | |
| LAN-GUAGE | English, Espanol, Pyccknn, Portugues, Deutsch, Francais, Japanese | | Select language | | |
| MAIN-TENANCE | W.PIX MASK ↓ | AUTO/MANUAL/CLEAR | Blemish Compensation | | |
| | CAMERA RESET ↓ | | Restore all the settings to the default values | | |
| EXIT | SAVE | | Save the value and exit menu (The current settings are saved in the flash ROM) | | |
| | NOT SAVE | | Retain the value and exit menu (The current settings are not saved in the flash ROM) | | |
| | CANCEL | | Escape the menu without save | | |
| | BACK | | Move back to previous menu | | |
| Advanced menu (● :adjustable, x :inalterable) | | | | | |
| SCENE | CUSTOM | INDOOR | OUTDOOR | BACKLIGHT | ITS |
| SHUTTER/AGC | ● | ● | ● | ● | ● |
| WHITE BAL | ● | x | x | x | x |
| HLC/BLC | ● | ● | ● | ● | ● |
| WDR/ATR-EX | ● | x | x | x | x |
| DNR(=3RNR) | ● | ● | ● | ● | ● |
| DAY/NIGHT | ● | ● | ● | ● | ● |
| IR OPTIMIZER | ● | x | x | x | x |
| LENS SHD COMP | ● | ● | ● | ● | ● |
| DEFOG | ● | x | x | x | x |
| FLK LESS | ● | ● | ● | ● | ● |
| ANTI CR | ● | ● | ● | ● | ● |

| Main Menu | Select Menu | Sub Menu | Summary |
|------------------------|---|--|--|
| ADVANCED MENU(1/2) | 1. SHUTTER/AGC | | |
| | AUTO ↓ | AE LEVEL : 1~250 | Auto exposure setting |
| | | AGC MAX : 6/12/18/24/30/36/42/44.8DB | |
| | | SENS UP : AUTO/OFF | |
| | MANUAL ↓ | Shutter : 256, 128, 64, 32, 16, 8, 4, 2 FLD, 1/60(1/50), 1/120(1/100), 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 | Manual exposure setting |
| | | AGC MAX : 6/12/18/24/30/36/42/44.8DB | |
| | | Shutter : 256, 128, 64, 32, 16, 8, 4, 2 FLD, 1/60(1/50), 1/120(1/100), 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 | |
| | FIX ↓ | AGC MAX : 6/12/18/24/30/36/42/44.8DB | FIX exposure setting |
| | | Shutter : 256, 128, 64, 32, 16, 8, 4, 2 FLD, 1/60(1/50), 1/120(1/100), 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 | |
| | 2. WHITE BAL | | |
| ATW ↓ | Speed : 0~255(127) | Auto trace white balance setting (1,800°K~ 10,500°K) | |
| | Delay CNT : 0~255(001) | | |
| | ATW Frame : 0~255(125) Environment : Indoor, Outdoor | | |
| PUSH | | Automatically adjust the white balance under all conditions | |
| USER1 ↓ | B-Gain, R-Gain | The gain values for the outdoor fixed mode (Adjust the Red or Blue values) | |
| USER2 ↓ | B-Gain, R-Gain | The gain values for the fluorescent light fixed mode(Adjust the Red or Blue values) | |
| MANUAL ↓ | | Manual white balance | |
| PUSH LOCK | | Move the camera lens toward to white paper then press the set button to find the optimal white balance for current environment | |
| 3. HLC/BLC | | | |
| OFF | | Deactivated function | |
| HLC ↓ | | High Compensation | |
| BLC | | Back Light Compensation | |
| 4. WDR/ATR-EX | | | |
| OFF | | Deactivates WDR function | |
| WDR ↓ | Contrast : LOW/MID/HIGH | Wide Dynamic Range | |
| | Clear Face : LOW/MID/HIGH | | |
| ATR-EX ↓ | Contrast : LOW/MID/HIGH | Auto Tone Reproduction(=WDR) | |
| | Clear Face : LOW/MID/HIGH | | |
| 5. DNR(=3DNR) | | | |
| DNR ↓ | Level : 0~6 | Set the 3D-Noise Reduction | |
| 6. DAY/NIGHT | | | |
| AUTO ↓ | Burst : OFF/ON | Day : Color ↔ Night : B/W (Switching time & speed adjustable) | |
| | CNTL SIGNAL : INT/EXT1/EXT2 | | |
| | Delay CNT : 000~255(005) | | |
| | Day→Night : 000~255(004) Night→Day : 000~255(016) | | |
| DAY | | Fixed at color | |
| NIGHT ↓ | Burst : OFF/ON | Fixed at B/W | |
| 7. IR OPTIMIZER | | | |
| ON ↓ | | Activates IR OPTIMIZER function | |
| OFF | | Deactivates IR OPTIMIZER function | |
| ADVANCED MENU(2/2) | 1. LENS SHD COMP | | |
| | OFF | | Deactivates Lens Shade compensation |
| | ON ↓ | | Activates Lens Shade compensation |
| | 2. DEFOG | | |
| | OFF | | Deactivates defog function |
| | ON ↓ | Level : LOW/MID/HIGH | Activates defog function |
| | 3. FLK LESS | | |
| | OFF | | Deactivates Flicker-less function |
| | AUTO ↓ | | Flicker is automatically detected and compensated. |
| | 4. ANTI CR | | |
| OFF | | Deactivates Anti color rolling function | |
| ON | | Activates Anti color rolling function | |
| AUTO | | Color rolling is automatically detected and compensated. | |

- The ' ↓ ' icon appeared with desired function, press the set button to move sub menu.
- The ' - - - ' icon appeared with function that is unavailable according to function setting.

*** All specifications are subject to change without notice to improve product quality.