STAR-LIGHT **PLUS** ™

Color in Darkness Universal HD over Coax® cameras

4K Universal HD over Coax®
vandal ball camera

DWC-VA883WTIR

User Manual ver.: 05/24

Before installing and using the camera, please read this manual carefully.
Be sure to keep it handy for future reference.

Contents

Safety Information

	CAUTION	
⚡	RISK OF ELECTRIC SHOCK. DO NOT OPEN	⚠

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

⚡ This symbol indicates that dangerous voltage consisting of a risk of electric shock is present within this unit.

⚠ This exclamation point symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance

WARNING

To prevent damage which may result in fire or electric shock hazard, do not expose this appliance to rain or moisture.

WARNING

1. Be sure to use only the standard adapter that is specified in the specification sheet. Using any other adapter could cause fire, electrical shock, or damage to the product.

2. Incorrectly connecting the power supply or replacing the battery may cause an explosion, fire, electric shock, or damage to the product.

3. Do not connect multiple cameras to a single adapter. Exceeding the capacity may cause abnormal heat generation or fire.

4. Securely plug the power cord into the power receptacle. An insecure connection may cause fire.

5. When installing the camera, fasten it securely and firmly. A falling camera may cause personal injury.

6. Do not place conductive objects (e.g. screwdrivers, coins, metal things, etc.) or containers filled with water on top of the camera. Doing so may cause personal injury due to fire, electric shock, or falling objects.

3

7. Do not install the unit in humid, dusty, or sooty locations.
   Doing so may cause fire or electric shock.

8. If any unusual smells or smoke come from the unit, stop using the product.
   In such a case, immediately disconnect the power source and contact the service center. Continued use in such a condition may cause fire or electric shock.

9. If this product fails to operate normally, contact the nearest service center. Never disassemble or modify this product in any way.

10. When cleaning, do not spray water directly onto parts of the product.
    Doing so may cause fire or electric shock.

PRECAUTION

Operating

· Before using, make sure the power supply and all other parts are properly connected.

· While operating, if any abnormal condition or malfunction is observed, stop using the camera immediately and contact your dealer.

Handling

· Do not disassemble or tamper with parts inside the camera.

· Do not drop the camera or subject it to shock or vibration as this can damage the camera.

· Clean the clear lens cover with extra care. Scratches and dust can ruin the quality of the camera image.

Installation and Storage

· Do not install the camera in areas of extreme temperature, exceeding the allowed range.

· Avoid installing in humid or dusty environments.

· Avoid installing in places where radiation is present.

· Avoid installing in places where there are strong magnetic fields and electric signals.

· Avoid installing in places where the camera would be subject to strong vibrations.

· Never expose the camera to rain or water.

Important Safety Instructions

1. Read these instructions.
   - All these safety and operating instructions should be read before the product is installed or operated.

2. Keep these instructions.
   - The safety, operating and use instructions should be retained for future reference.

3. Heed all warnings.
   - All warnings on the product and in the operating instructions should be adhered to.

4. Follow all instructions.
   - All operating and use instructions should be followed.

5. Do not use this device near water.
   - For example: near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, near a swimming pool, etc.

6. Clean only with a dry cloth.
   - Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners.

7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
   - Slots and openings in the cabinet are provided for ventilation, to ensure reliable operation of the product, and to protect it from over-heating. The openings should never be blocked by placing the product on a bed, sofa, rug or other similar surfaces. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided and the manufacturer's instructions have been adhered to.

8. Do not install near any heat sources such as radiators, heat registers, or other apparatus (including amplifiers) that produce heat.

9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

Important Safety Instructions

11. Only use attachments/accessories specified by the manufacturer.

12. Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus.
    When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.

14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Disposal of Old Appliances

1. All electrical and electronic products should be disposed of separately from the municipal waste stream in accordance with laws designated by the government or the local authorities.

2. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.

3. For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or the shop where you purchased the product.

FC CE

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 interferenece at his own expense.

Features

- Universal HD over Coax® technology with HD-Analog, HD-TVI, HD-CVI and all legacy analog signal support
- Star-Light Plus™ color in near-total darkness technology
- 1/1.8" image sensor
- 4K at 15fps, 4MP at 30fps, 2.1MP/1080p at 30fps
- 3.6 ~ 10mm vari-focal motorized zoom p-iris lens with auto-focus
- True wide dynamic range (WDR)
- OSD control via coaxial (UTC)
- Vandal ball housing reduces IR reflection
- 80' Smart IR™ with intelligent camera sync
- Smart DNR™ 3D digital noise reduction
- True day/night mechanical IR cut filter
- De-Fog™ extreme weather image compensation
- Auto sensing 24VAC/12VDC with line lock
- Programmable privacy zones
- Auto gain control (AGC)
- Backlight compensation (BLC)
- Auto white balance (AWB)
- IP67 dust-tight and water-proof to 3 feet
- IK 10-rated impact-resistant
- 5 year warranty

Product and accessories

※ Please check if all the camera and accessories are included in the package.
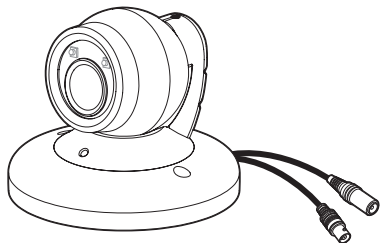
Camera   Cables

DC plug

Quick setup guide

Screws and plastic anchors - 2pcs

Hex Allen wrench

Mounting template

Part names

Camera tilt/rotation screw

IR LEDs

Lens

Camera panning screw

BNC cable

Power cable
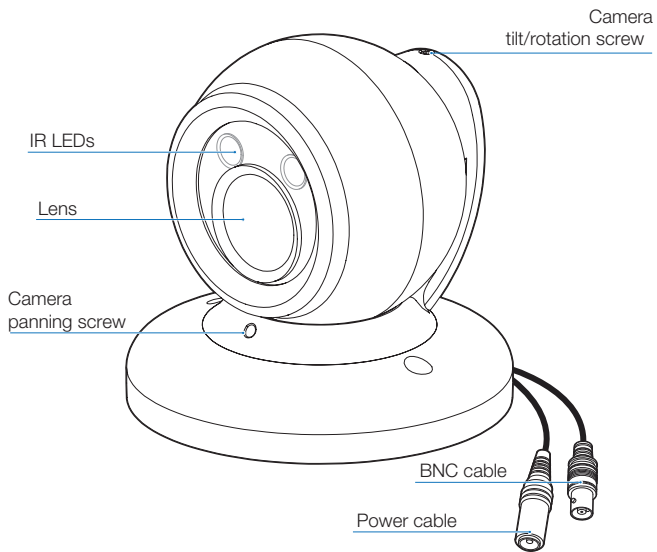
Dimensions

Unit: inches (mm)

3.74" (95mm)

4.92" (125mm)

4.8" (122mm)
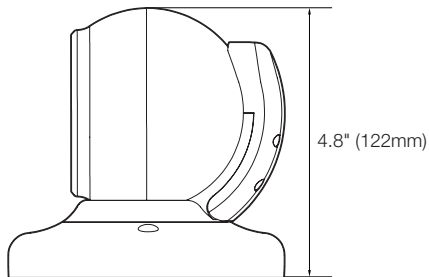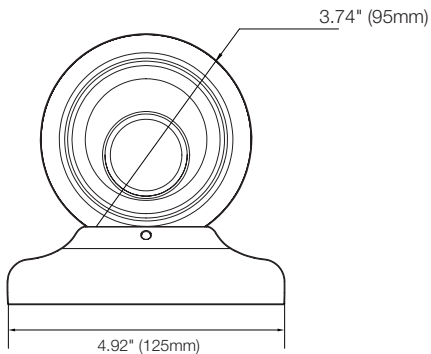
Before installing your camera, read the following cautions.

1. The mounting surface must withstand five times the camera weight.
2. Do not let the cables get caught in improper places or the electric line cover can be damaged. This may cause a short or fire.
3. When installing your camera, do not allow any person to approach the installation site. If you have any valuable things under the place, move them away
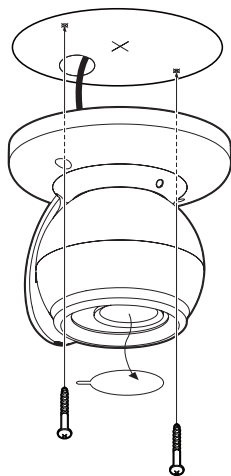
Installation - Instructions

❶ Using the mounting template or your camera, mark and drill the necessary holes in the mounting surface.

❷ Pull all necessary wires through and make the proper connections. See pages 14.

❸ Use the two (2) mounting screws to install the camera onto the mounting surface. See page 15 for tilting and pan adjustment options.

❹ When the installation is complete, remove the protective sticker from the camera's lens.

Mounting template

Protective sticker
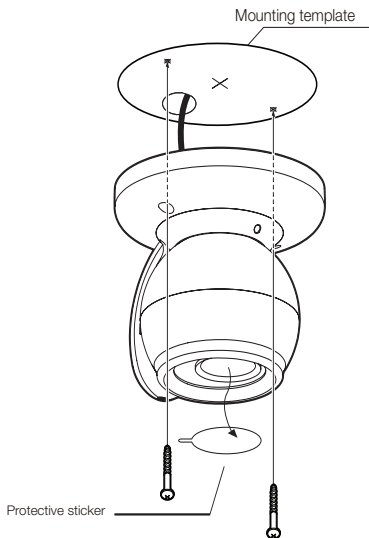
Connecting to Monitors

Use the diagram below to connect the camera to a Universal HD over Coax® DVR or CRT monitor.

12V DC/24VAC

COAX

Universal HD over Coax® DVR
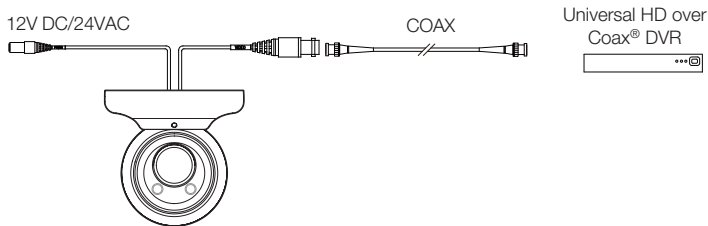
- Power connection - 12V DC/ 24V AC dual-voltage with auto polarity detection and protection.

※ **NOTE:** To use your Star-Light Plus™ 4K cameras at a lower resolution, you must use a VMAX® A1 4K™ DVR to access the camera's menu due to the cameras being set to 4K as the default. A DVR that does not support 4K resolution may recognize the camera, but will not deliver a picture.

Panning 360°

Rotation 360°

Tilting 90°
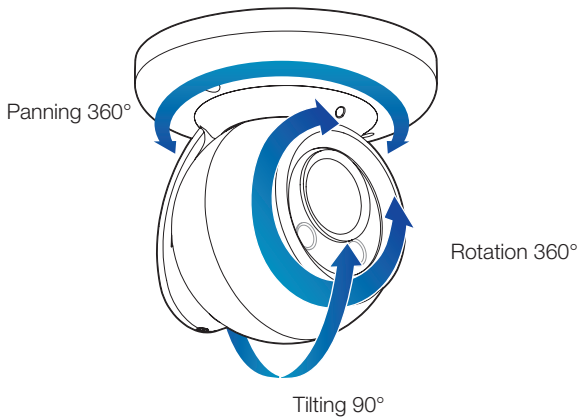
OSD Menu Tree

⊚ EXPOSURE

LENS	MANUAL / AUTO
2-MOTOR	AF MODE / D&N FILTER /INITIAL
BRIGHTNESS	0 ~ 20
SHUTTER	AUTO / MANUAL / FLICKER
BACKLIGHT	OFF / HME / BLC / WDR
STARLIGHT	OFF / x2 ~ x32
AGC	0 ~ 10
3D DNR	OFF / LOW / MIDDLE / HIGH
RETURN	

⊛ COLOR

WHITE BAL.	AUTO / AUTOext / PRESET / MANUAL
COLOR GAIN	0 ~ 20
RETURN	

⊠ DAY & NIGHT (IR OPTION)

MODE	AUTO / COLOR / B&W
IR LED	ON / OFF
SMART IR	0 ~ 20
D>N THRES	0 ~ 20
N>D THRES	0 ~ 20
DELAY	LOW / MIDDLE / HIGH
RETURN	

⊞ FUNCTION

SHARPNESS	0 ~ 10
GAMMA	0.45 ~ 0.75
MIRROR	OFF / ON
FLIP	OFF / ON
D-ZOOM	x1.0 ~ x16.0
DRC	OFF / ON
DEFOG	OFF / ON
RETURN	

OSD Menu Tree

MOTION

DET WINDOWS	
SENSITIVITY	0 ~ 10
MOTION OSD	OFF / ON
TEXT ALARM	OFF / ON
SIGNAL OUT	OFF / ON
RETURN	

PRIVACY

BOX	OFF / ON
POLYGON	OFF / ON
RETURN	

SETUP

COMM.	CAM ID / BAUDRATE / CONFIRM
OUTPUT	FRAME RATE / FREQ / ANALOG MODE / CONFIRM
LANGUAGE	ENG / CHN / CHN(S) / JPN / KOR
CAM TITLE	RIGHT UP / LEFT DOWN
RESET	OFF / ON
RETURN	

EXIT

SAVE & EXT	
EXIT	
RETURN	

OSD Menu_Exposure

❶ LENS

Manual: Manual mode supports the fixed board lens or the manual iris lens. Auto: AUTO mode sets the camera's iris automatically.

```
          ⬚ EXPOSURE

❶──── LENS          AUTO              2-MOTOR
❷──── 2-MOTOR       ↵
      BRIGHTNESS    10        AF MODE      ONESHOT
      SHUTTER       AUTO↵     D&N FILTER   SYNC OFF
      BACKLIGHT     OFF       INITIAL      ON↵
      STARLIGHT     X4        RETURN       ↵
      AGC          10
      3D DNR       HIGH
      RETURN        ↵
```
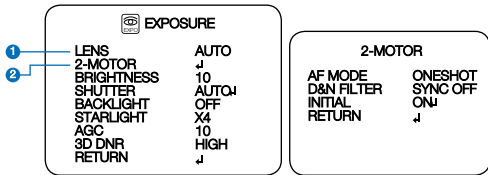
❷ 2-MOTOR

Enter the 2-Motor Lens sub-menu.

AF MODE
- ONESHOT: Set the camera's focus automatically based on the camera's current field of view (FoV).
- MANUAL: Adjust the camera's focus and zoom manually.

D&N FILTER
Set the camera's focus to adjust automatically when the camera switches between day and night model.

INITIAL
Initiate the two motor lens.

❸ **BACKLIGHT**
Off

HME (highlight masking exposure) HME allows objects to appear clearly on the screen by masking extremely bright areas. To setup HME, set the level and color of the HME mask. The lower the number, the darker the areas have to be in order to be masked. Select from: 0 ~ 20.
Color: Set the color of the HME masks. Select from: black, white, yellow, cyan, green, magenta, red and blue.

BLC (backlight compensation)
If BLC is selected, adjust the size and position of the BLC mask:
- H-POS: Move the mask's position left or right.
The higher the number, the mask will move to the right.
- V-POS: Move the mask's position up or down.
The higher the number, the mask will move down.
- H-Size: Adjust the mask's width. The higher the number, the right-side panel of the mask will move further to the right.
- V-Size: Adjust the mask's height. The higher the number, the bottom side panel of the mask will move further down.

WDR (Wide Dynamic Range)
If WDR is selected, adjust the WDR level (weight) in the sub-menu. Select from low, middle, or high (default).
- WDR Mode: Line (sensor WDR), frame (double-scan WDR).
- ROI Mode: Enable WDR only in a set interest area.
- Weight: Available only when normal mode is selected.

▓ **ROI (Region of Interest)**
To have a more efficient scene result, up to four (4) regions are able to be selected for the WDR effect to maintain the most suitable color appearances.

```
        ▣ EXPOSURE

   LENS            AUTO
   2-MOTOR         ↵
   BRIGHTNESS      10
   SHUTTER         AUTO◄
❸  BACKLIGHT       OFF
   STARLIGHT       X4
   AGC             10
   3D DNR          HIGH
   RETURN          ↵
```

```
      BACKLIGHT

   LEVEL         10
   COLOR         BLK
   RETURN        ↵
```

```
      BACKLIGHT

   H-POS         11
   V-POS         10
   H-SIZE        3
   V-SIZE        3
   RETURN        ↵
```

```
      BACKLIGHT

   WDR MODE    LINE
   ROI MODE    OFF
   WEIGHT      HIGH
   RETURN      ↵
```

```
        ⊡ EXPOSURE
   LENS             AUTO
   2-MOTOR          ↵
   BRIGHTNESS       10
   SHUTTER          AUTO↵
④  BACKLIGHT        OFF
⑤  STARLIGHT        X4
   AGC              10
⑥  3D DNR           HIGH
   RETURN           ↵
```
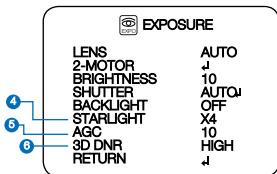
⑤ Star-Light Plus™ (disabled at 4K/15fps)

Off / x2 ~ x32 (default: x4) - Automatically activate the camera's slow shutter when the image is too dark. High values are not recommended as they may cause the image to lag and increase digital noise. The Star-Light Plus™ menu cannot be controlled if the shutter settings are above 1/30.

⑥ AGC (auto gain control)

0~10 - AGC enhances the picture brightness in low light conditions. A higher level of AGC will make the image brighter. This could also increase the amount of digital noise in the image.
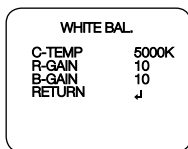
⑦ 3D DNR (3D digital noise reduction)

Off, low, middle, high - 3D-DNR reduces digital noise on the camera's view in low light conditions and allows for clearer images, even at night.

OSD Menu_Color

WB MODE

```
         COLOR                    WHITE BAL.

WHITE BAL.    AUTO↵      C-TEMP      5000K
COLOR GAIN    10         R-GAIN      10
RETURN        ↵          B-GAIN      10
                         RETURN      ↵
```
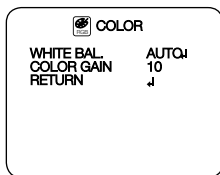
Auto   Compensates for color temperature change between 2400K° and 12000K°.

AUTOext   Compensates for color temperature change under 2400K° and over 12000K°.

Preset   Automatically set the white balance based on the current lighting conditions.

Manual   Manually set the white balance by changing red gain and blue gain.

C-Temp: Select the color temperature for the white balance setup.
If enabled, the red and blue gain settings will be set automatically according to the C-TEMP selected.
Red gain: 0 ~ 20. Adjusts the amount of red in the image.
Blue gain: 0 ~ 20. Adjust the amount of blue in the image.

Color gain   Set the color gain from 0~20.
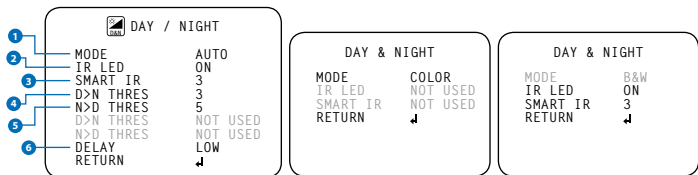
❶ Mode

Auto: The camera will switch between day and night modes according to the CDS levels.
Color: The camera will remain in color/day mode.
B&W: The camera will remain in B/W/night mode.

❷ IR LED

On, off: Enable or disable the IR LEDs in the camera.

❸ Smart IR™

Setting the level for the Smart IR™ function.

❹ D>N THRES

Adjust the time settings when the camera will switch from color to BW mode.

❺ N>D THRES

Adjust the time settings when the camera will switch from BW to color mode.

❻ Delay

Set a delay for when the camera switches between day and night modes.
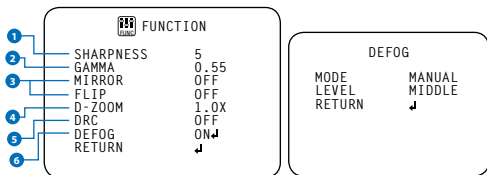
❶ Sharpness

0 ~ 10: Set the image's sharpness. The higher the number, the sharper the image.

❷ Gamma

0.45 ~ 0.75: Select the desired gamma level. 0.55 is the default setting.

❸ Mirror, flip

Off
Mirror: Reflects the camera horizontally.
Flip: Reflects the camera vertically.

Mirror and flip off | Mirror on | Flip on | Mirror and flip on

❹ D-Zoom (disabled at 4K/15fps)

1.0x ~ 16.0x: Sets the digital zoom.

❺ DRC (digital image stabilizer)

Low, middle, high: Set the DRC levels.

❻ DEFOG

Off, on: Set the De-fog levels.

OSD Menu_Motion

The camera can detect movement and display an alarm on the screen when movement is detected.

```
          [M] MOTION
❶  DET WINDOW        ↵                 DET WINDOW
❷  SENSITIVITY       5
❸  MOTION OSD        OFF         WINDOW USE      0
   TEXT ALARM        OFF         WINDOW ZONE     ON
   SIGNAL OUT        ON          DET H-POS       1
   RETURN            ↵           DET V-POS       1
                                 DET H-SIZE      77
                                 DET V-SIZE      58
                                 RETURN          ↵
```
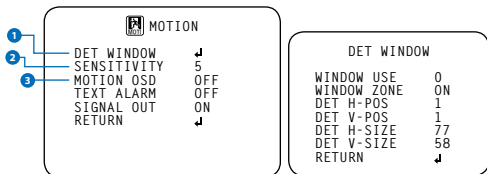
❶ DET window

- Window use: Select which one of the motion areas to enable.

- Window zone: The camera supports up to 4 different masks. Select which ones to display.

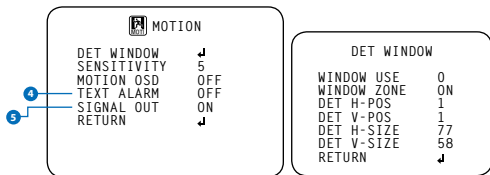|	
- DET H-POS:	Move the zone's position left or right. The higher the number, the zone will move to the right.
- DET V-POS:	Move the zone's position up or down. The higher the number, the zone will move down.
- DET H-Size:	Adjust the zone's width. The higher the number, the right-side panel of the zone will move further to the right.
- DET V-Size:	Adjust the zone's height. The higher the number, the bottom side panel of the zone will move further down.

❷ Sensitivity

The smaller the movement you want to detect, the higher the sensitivity value must be.

❸ Motion OSD

Enable or disable showing the motion detection on the camera's OSD.

The camera can detect movement and display an alarm on the screen when movement is detected.

```
         🔲 MOTION
   DET WINDOW        ↵
   SENSITIVITY       5
   MOTION OSD        OFF
   TEXT ALARM        OFF
   SIGNAL OUT        ON
   RETURN            ↵
```

```
         DET WINDOW
   WINDOW USE        0
   WINDOW ZONE       ON
   DET H-POS         1
   DET V-POS         1
   DET H-SIZE        77
   DET V-SIZE        58
   RETURN            ↵
```

④ Text alarm

Setup a text to appear on the screen when motion is detected.

- Window motion: Will appear when a motion alarm is detected in the set motion window.
- Camera moving: Will appear if the camera is shaken abruptly.
- Bright change: Will appear if the camera detects sudden changes in brightness.

⑤ Signal out (off, on)

- Off: The signal output is disabled regardless of motion detection.
- On: The signal output will be activated when motion is detected in the motion window.

OSD Menu_Privacy

You can hide some parts of the camera's view to protect your privacy and sensitive data. A total of 24 privacy masking zones are available, including 16 square zones and 8 polygon-shaped zones.

```
┌─────────────────────────┐   ┌─────────────────────────┐
│        📓 PRIVACY        │   │          BOX            │
│                         │   │                         │
│  BOX          ON        │   │  ZONE NUM      0        │
│  POLYGON      OFF       │   │  ZONE DISP     ON       │
│  RETURN       ↵         │   │  H-POS         12       │
│                         │   │  V-POS         2        │
│                         │   │  H-SIZE        3        │
│                         │   │  V-SIZE        3        │
│                         │   │  Y LEVEL       10       │
│                         │   │  CB LEVEL      10       │
│                         │   │  CR LEVEL      10       │
│                         │   │  TRANS         0        │
│                         │   │  RETURN        ↵        │
└─────────────────────────┘   └─────────────────────────┘
```
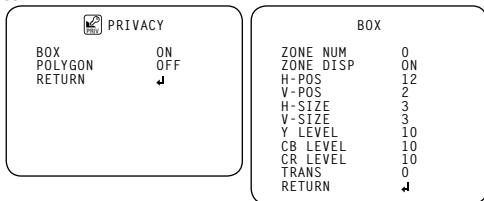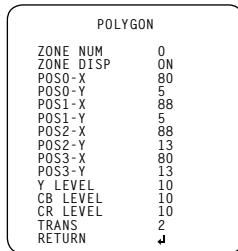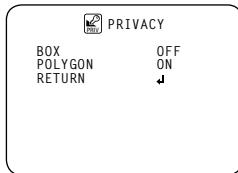
Box

- Zone num: Select the zone number between 0~15.
- Zone disp: Select to show or hide the selected zone.
- H-POS: Move the zone's position left or right. The higher the number, the zone will move to the right.
- V-POS: Move the zone's position up or down. The higher the number, the zone will move down.
- H-Size: Adjust the zone's width. The higher the number, the right-side panel of the zone will move further to the right.
- V-Size: Adjust the zone's height. The higher the number, the bottom side panel of the zone will move further down.
- Y level: The higher the number, the brighter the color of the zone will appear.
- CR level: The higher the number, the more red tone will be added to the zone's color. The lower the number, the more green will be added to the zone's color.
- CB level: The higher the number, the more red tone will be added to the zone's color. The lower the number, the more red will be added to the zone's color.
- Trans: Set the mask's transparency level from 0~3. The default value is 0.

You can hide some parts of the camera's view to protect your privacy and sensitive data. A total of 24 privacy masking zones are available, including 16 square zones and 8 polygon-shaped zones.

```
        🖼 PRIVACY                    POLYGON

BOX           OFF          ZONE NUM      0
POLYGON       ON           ZONE DISP     ON
RETURN        ↵            POS0-X        80
                           POS0-Y        5
                           POS1-X        88
                           POS1-Y        5
                           POS2-X        88
                           POS2-Y        13
                           POS3-X        80
                           POS3-Y        13
                           Y LEVEL       10
                           CB LEVEL      10
                           CR LEVEL      10
                           TRANS         2
                           RETURN        ↵
```

❶ Polygon
 - Zone num: Select the zone number between 0~7.
 - Zone disp: Select to show or hide the selected zone.
 - POS0-X: Move the zone's upper left angle left and right.
 - POS0-Y: Move the zone's upper left angle up and down.
 - POS1-X: Move the zone's upper right angle left and right.
 - POS1-Y: Move the zone's upper right angle up and down.
 - POS2-X: Move the zone's lower right angle left and right.
 - POS2-Y: Move the zone's lower right angle up and down.
 - POS3-X: Move the zone's lower left angle left and right.
 - POS3-Y: Move the zone's lower left angle up and down.
 - Y level: The higher the number, the brighter the color of the zone will appear.
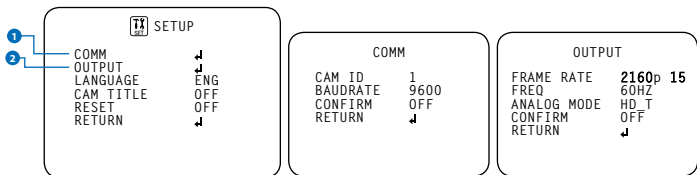 - CR level: The higher the number, the more red tone will be added to the zone's color.

   The lower the number, the more green will be added to the zone's color.
 - CB level: The higher the number, the more red tone will be added to the zone's color.
   The lower the number, the more red will be added to the zone's color.
 - Trans: Set the mask's transparency level from 0~3. The default value is 2.

OSD Menu_Setup


```
        [TX] SETUP
❶ ── COMM              ↵
❷ ── OUTPUT            ↵
      LANGUAGE         ENG
      CAM TITLE        OFF
      RESET            OFF
      RETURN           ↵
```

```
          COMM
  CAM ID      1
  BAUDRATE    9600
  CONFIRM     OFF
  RETURN      ↵
```

```
          OUTPUT
  FRAME RATE   2160p 15
  FREQ         60HZ
  ANALOG MODE  HD_T
  CONFIRM      OFF
  RETURN       ↵
```

❶ COMM
Adjust the camera's ID and Baudrate. Default Protocol is Pelco-D.
- CAM ID: Provide an ID number for the camera (0 ~ 255).
- BAUDRATE: 9600bps is the default. Select the baudrate from the following options:
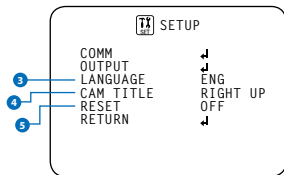 2400/4800/9600/5760~0/115200 bps.
- CONFIRM: OFF / ON

※ **NOTE:** Set "CONFIRM" On, after setting CAM ID / BAUDRATE and be sure to press the "SAVE&EXIT"
button on the EXIT menu.

❷ OUTPUT
- FRAME RATE: Set the camera's display frame rate and resolution. Select from:
1080P_30(25), 1440_30P(25), 2160P_15 (12.5).
- FREQ: When the camera's image appears to have flickering issues, change the
value to adjust the image. Select from 60HZ/50HZ.
- ANALOG MODE: Set the camera's Analog Mode. HD-A / HD-T / HD-C / CVBS
- CONFIRM: OFF / ON
※ **NOTE:** After adjusting the camera's frame-rate, frequency and analog mode, be sure to set
"CONFORM" on and press "SAVE&EXIT" to save all changes.

```
           ⚙ SETUP

      COMM           ↵
      OUTPUT         ↵
❸ ──  LANGUAGE       ENG
❹ ──  CAM TITLE      RIGHT UP
❺ ──  RESET          OFF
      RETURN         ↵
```

❸ LANGUAGE

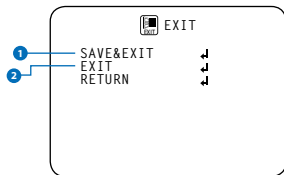Select from the following: English (Default), Chinese, Chinese (S), Japanese, and Korea.

❹ CAM TITL

Add a name to the camera.

❺ RESET

Reset the camera to its default settings. Press and hold the select button for five (5) seconds. Change to ON and operate with the ENTER KEY.

OSD Menu_Exit

```
        ▣ EXIT
❶ ─── SAVE&EXIT      ↵
❷ ─── EXIT           ↵
      RETURN         ↵
```

❶ SAVE & EXIT

Exit the OSD menu after saving the recent changes.

❷ EXIT

Exit the OSD menu without saving any changes.

Troubleshooting

Before sending your camera for repair, check the following or contact our technical specialist.

FOR NO VIDEO
Check the coaxial cable and make sure it is connected securely.
Check the power supply and make sure the camera has the proper voltage and current.

FOR OUT-OF-FOCUS VIDEO
Check the Front case cover and the lens for dirt or fingerprints.
Use a soft cloth and gently clean.
The use of a field test monitor is recommended.

Specifications

VIDEO	
Image sensor	1/1.8" CMOS sensors
Active pixels	3864(H) x 2176(V)
Scanning system	Progressive scan
Frequency	60Hz
Signal technology	Max 4K
Synchronization	Internal
Resolution	2160p @ 15fps, 1440p @ 30fps, 2.1MP/1080p @ 30fps
Minimum scene illumination	0.1 lux (color)
	0 lux (B/W)
Video output	BNC (Universal: HD-A / HD-TVI / HD-CVI / CVBS)
LENS	
Focal length and lens type	3.6~10mm vari-focal p-iris lens with motorized zoom and auto-focus
IR distance	80ft
OPERATIONAL	
Alarm output	-
Shutter speed	1/30 - 1/30,000
Backlight	OFF / HME / BLC / WDR
Starlight	OFF, x2 - x32 (N/A at 4K)
Wide Dynamic Range (WDR)	LOW / MIDDLE / HIGH

Specifications

OPERATIONAL (CONT.)	
Digital Noise Reduction	OFF / LOW / MIDDLE / HIGH
White balance	AUTO / AUTOext / PRESET / MANUAL
Day and night	AUTO / COLOR / BW
Auto gain control	0 ~ 10
Motion detection	ON / OFF (4 zones)
Privacy zones	ON / OFF (16 boxed zones / 8 polygon zones)
Sharpness	0 ~ 10
Gamma	0.45 ~ 0.75
Remote control	Coaxial (UTC)
ENVIRONMENTAL	
Operating temperature Operating humidity	-4°F ~ 122°F (-20°C ~ 50°C). Less than 90% (Non-Condensing)
IP and IK rating	IP67-rated, IK10-impact resistant
Other Certifications	FCC, CE, ROHS
ELECTRICAL	
Power requirements	DC12V/24V AC dual-voltage
Power consumption	DC12V (LED off): 5.517W, 460mA DC12V (LED on): 8.98W, 748mA AC24V (LED off): 5.06W, 358mA AC24V (LED on): 8.03W, 552mA
MECHANICAL	
Housing material and dimensions	Aluminum vandal ball housing, 4.92" x 4.8" (125 x 122 mm)
Weight	1.58lbs (0.72kg)

Limits and Exclusions

There are no express warranties except as listed. The warrantor will not be liable for incidental or consequential damages (including damage to recording media without limitation) resulting from the use of these products or arising out of any breach of the warranty. All express and implied warranties, including the warranties of merchantability and fitness for a particular purpose, are limited to the applicable warranty period set forth above.

Some states do not allow the exclusion or limitation of incidental or consequential damages or limitations on how long an implied warranty lasts, so the exclusions or limitations listed above may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary from state-to-state.

If the problem is not handled to your satisfaction, then write to the following address:

Digital Watchdog, Inc.
ATTN: RMA Department
16220 Bloomfield Ave
Cerritos, CA 90703

Service calls that do not involve defective materials or workmanship as determined by the Warrantor, in its sole discretion, are not covered. Costs of such service calls are the responsibility of the purchaser.

Warranty Information

Digital Watchdog (referred to as "the Warrantor") warrants the Digital Watchdog Camera against defects in materials or workmanship as follows:

LABOR: For the initial five (5) years and one (1) year on IR LED from the original purchase date, if the camera is determined to be defective, the Warrantor will repair or replace the unit with a new or refurbished product at its option at no charge.

PARTS: In addition, the Warrantor will supply replacement parts for the initial five (5) years and one (1) year on IR LED.

To obtain warranty or out of warranty service, please contact a Technical Support Representative at 1+ (866)446-3595 Monday through Friday from 9:00 AM to 8:00 PM Eastern Standard Time.

A purchase receipt or other proof of the original purchase date is required before warranty service is rendered. This warranty only covers failures due to defects in materials and workmanship which arise during normal use. This warranty does not cover damage which occurs in shipment or failures which are caused by products not supplied by the Warrantor or failures which result from accident, misuse, abuse, neglect, mishandling, misapplication, alteration, modification, faulty installation, set-up adjustments, improper antenna, inadequate signal pickup, maladjustment of consumer controls, improper operation, power line surge, improper voltage supply, lightning damage, rental use of the product or service by anyone other than an authorized repair facility or damage that is attributable to acts of God.

Complete Surveillance Solutions