960H Outdoor Bullet Camera
Double Arm Bracket

DWC-B1567WD
DWC-B1567WTIR

ABOUT MANUAL

INFINITY *960H*

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

PRECAUTIONS

- Do not open or modify.
- Do not open the case except during maintenance and installation,
  for it may be dangerous and can cause damages.
- Do not put objects into the unit.
- Keep metal objects and flammable substances from entering the camera.
  It can cause fire, short-circuits, or other damages.
- Be careful when handling the unit.
- To prevent damages, do not drop the camera or subject it to shock or vibration.
- Do not install near electric or magnetic fields.
- Protect from humidity and dust.
- Protect from high temperature.
- Be careful when installing near the ceiling of a kitchen or boiler room,
  as the temperature may rise to high levels.
- Cleaning:
  To remove dirt from the case, moisten a soft cloth with a soft detergent solution and wipe.
- Mounting Surface:
  The material of the mounting surface must be strong enough to support the camera.

FCC COMPLIANCE

This equipment has been tested and found to comply with the limits for a Class B 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 residential environment. This equipment generates, uses, and radiates radio frequency energy; and if it is not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications.

WARNING : Changes or modifications are not expressly approved by the manufacturer.

DW

Table of Contents

FEATURES*

DWC-B1567WD / DWC-B1567WTIR

- 1/3" 960H High Resolution CCD
- 700 TV Lines
- 3.3~12mm Varifocal Auto Iris Lens
- True Day and Night **(DWC-B1567WTIR only)**
- Star-Light (Super Low Light Technology)
- EWDR (Electronic Wide Dynamic Range)
- 3D-DNR (3D Digital Noise Reduction)
- HME (Highlight Masking Exposure)
- AGC / BLC / AWB
- Negative Imaging
- Mirror Image Control
- RS485 Built-in
- Programmable Privacy Zones (6) & Motion Detection
- Easy Icon Driven OSD Menu with Built-In Joystick
- Auto Sensing 12VDC or 24VAC with Line Lock
- Secondary Video-BNC Output
- 100ft Range IR with Intelligent Camera Sync **(B1567WTIR only)**
- IP66 Certified, No Fog or Condensation

PART & DESCRIPTIONS*
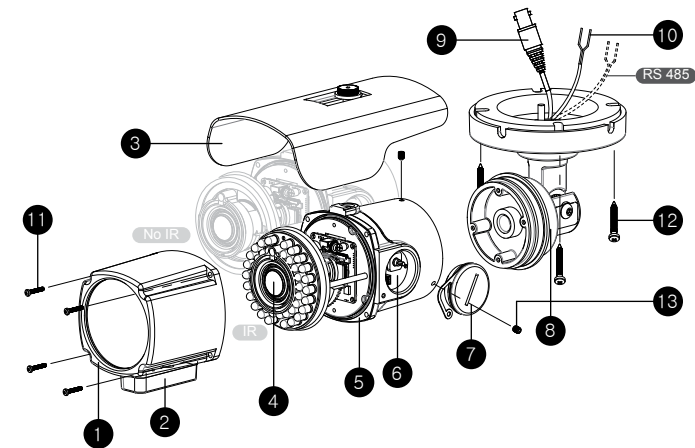
① Front Case

② Zoom, Focus Housing

③ Sunshield

④ Lens

⑤ Rear Case

⑥ Control Board
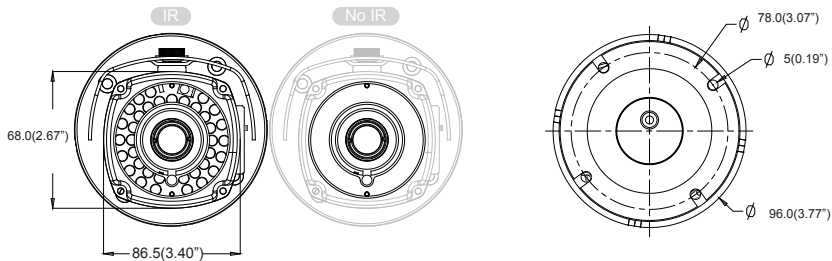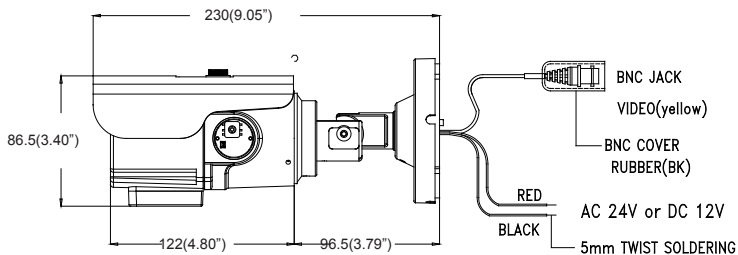
⑦ Control Cap

⑧ Double Arm Bracket

⑨ BNC Jack

⑩ Power Input Connector
DC 12V / AC24V Voltage

⑪ Assembly Screw

⑫ Fixing Screw

⑬ Set Screw

DIMENSIONS IN MILLIMETERS (INCHES)*

230(9.05")

BNC JACK

VIDEO(yellow)

BNC COVER
RUBBER(BK)

86.5(3.40")

RED

AC 24V or DC 12V

BLACK

122(4.80") 96.5(3.79")

5mm TWIST SOLDERING

IR No IR

68.0(2.67")

86.5(3.40")
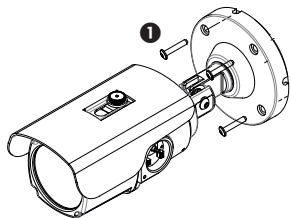
Ø 78.0(3.07")

Ø 5(0.19")

Ø 96.0(3.77")

INSTALLATION*

1. User Manual
2. Mounting Template
3. Four (4) Screws and Four (4) Dry Wall Anchors
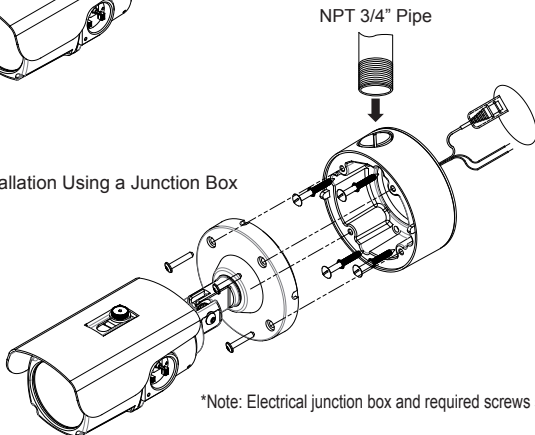4. Second Video Jack
5. Tool
6. L-Wrench
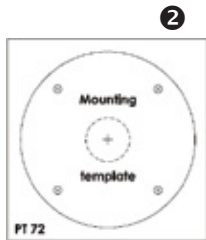
EASY INSTALLATION*

❶ Use the 4 mounting screws to install the camera on the wall or ceiling.
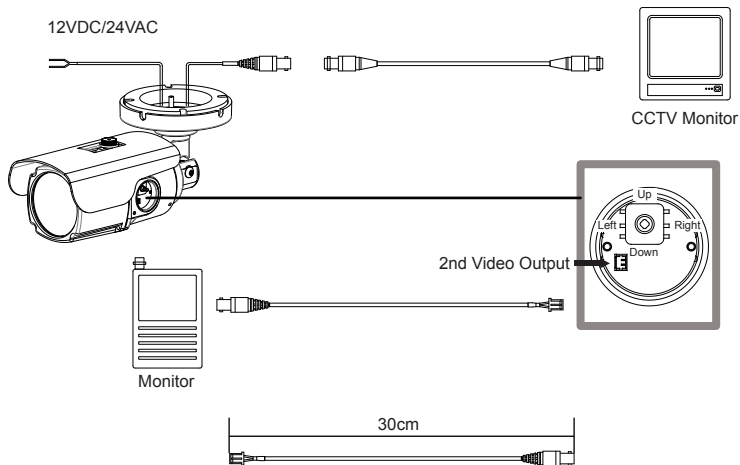
Then, follow the next step on the pages 9-12.

NPT 3/4" Pipe

*Installation Using a Junction Box

*Note: Electrical junction box and required screws sold separately.

CONNECTING TO MONITORS*

- Power Connection - 12VDC/24VAC Dual Voltage (Auto polarity detection and protection)

- All cameras are equipped with a service monitor output on the camera module.

CONTROL BOARD*

Joystick

Secondary Connector
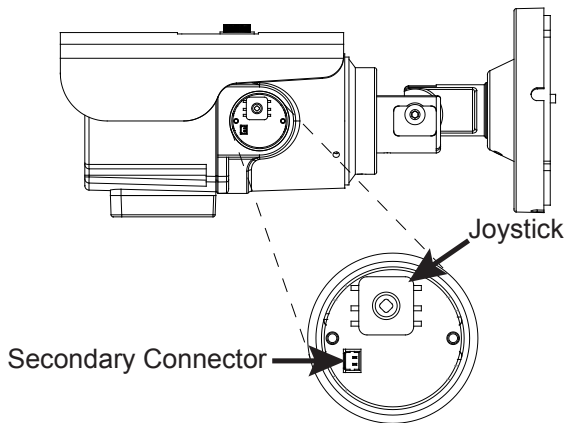
To Access Control Board:

[1] Remove clear plastic ring from the control cap.

[2] Turn Control Cap counter-clockwise until cap separates completely from the camera body.

Functions:

[1] Joystick -
Controls the OSD menu.

[2] Secondary Connector -
Tests video output connector.

ADJUSTING THE VARIFOCAL DC AUTO IRIS LENS*

Follow the instructions provided below to make any lens adjustments.

FOCUS   ZOOM
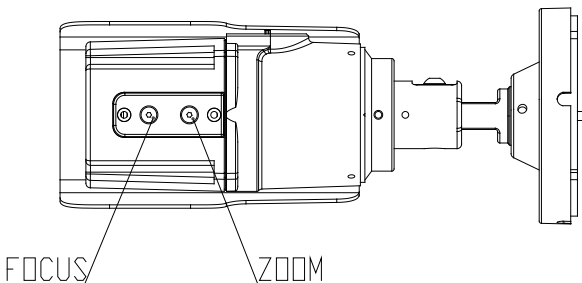
❶ To adjust the field of view, use the L-Wrench to turn the zoom screw (located
   on the bottom of the camera) counter-clockwise to zoom in, or clockwise to zoom out.

❷ Adjust the focus the same way as described above AFTER the desired zoom position
   is established.

CAMERA SETTING ANGLE*

Locking screw for 360˚ panning angle.

Locking screw for 90˚tilting angle.
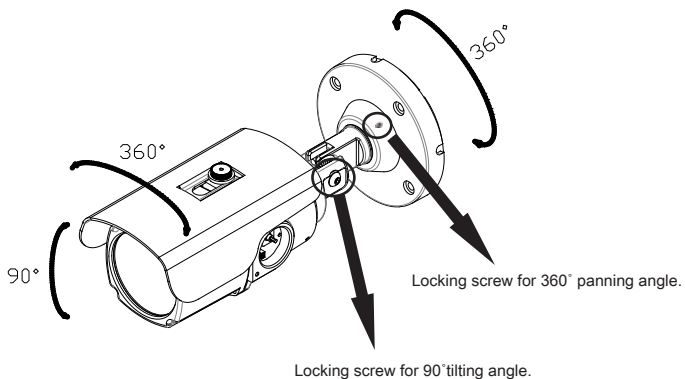
CAUTION :
1. Do not rotate it more than 360°
2. Do not twist it many times unnecessarily.

MODULE OSD MENU*

EXPOSURE	COLOR	DAY NIGHT

LENS
  Manual / DC 0~99
E.SHUTTER
  1/60, 1/100 FLC, 1/120 ~ 100000/
  x256 ~ X2
BLC (Back Light Compensation)
  OFF / ON
MAX-DR (Electronic Wide Dynamic Range)
  OFF/ ON (0~20)
AGC (Auto Gain Control)
  OFF/ LOW / MIDDLE / HIGH
STARLIGHT
  (x2~x256) / OFF (~X256)
EXIT JUMP
  EXIT / SAVE & EXIT / FACTORY SET
	WB MODE
	  AWC / ATW / MANUAL / PUSH
	R-Y GAIN
	  0~255
	B-Y GAIN
	  0~255
	EXIT JUMP
	  EXIT / SAVE & EXIT / FACTORY SET
		D&N MODE
		  AUTO / COLOR / B&W
		C-SUP
		  0~100
		A-SUP
		  0~100
		EXIT JUMP
		  EXIT / SAVE & EXIT / FACTORY SET

FUNCTION	MOTION	PRIVACY

MIRROR
  OFF/ MIRROR
SHARPNESS
  0~25
GAMMA
  0.45~1.00 / USER
NEGA
  OFF / ON
3D-DNR (3D Digital Noise Reduction)
  OFF / LOW / MIDDLE/ HIGH
HME (Highlight Masking Exposure)
  OFF / ON
EXIT JUMP
  EXIT / SAVE & EXIT / FACTORY SET
	MOTION
	  OFF / ON
	  SET WINDOW
	  ALL SET (Set the Entire Screen)
	  ALL CLEAR (Clear the Entire Screen)
	  SENSITI. (0~120)
	  SHOW INDI. (OFF / ICON / TRACE)
	  DELAY OUT (1~15)
	  Motion Alarm Zoom-In Delay
	EXIT JUMP
	  EXIT / SAVE & EXIT / FACTORY SET
		MASK1
		  OFF / ON
		MASK2
		  OFF / ON
		MASK3
		  OFF / ON
		MASK4
		  OFF / ON
		MASK5
		  OFF / ON
		MASK6
		  OFF / ON
		EXIT JUMP
		  EXIT / SAVE & EXIT / FACTORY SET

| SYNC	SET-UP	EXIT

SYNC MODE
  INTER. / AUTO
V-PHASE
  0~199
EXIT JUMP
  EXIT / SAVE & EXIT / FACTORY SET
	CAMERA ID
	  0~254 (RS485 ID)
	TITLE
	  OFF / ON
	DPC (Dead Pixel Cancellation)
	  OFF / AUTO
	MONITOR
	  CRT / LCD
	LANGUAGE
	  ENGLISH / CHINESE
	BAUDRATE.
	  2400/ 4800/ 9600/ 14400/ 19200/ 38400
	  (Pelco-D fixed)
	OMNI LENS
	  OFF / 0 (OMNI-Plus Camera only)
	EXIT JUMP
	  EXIT / SAVE & EXIT / FACTORY SET
		EXIT
		
		SAVE & EXIT
		
		FACTORY SET

EXPOSURE

LENS

MANUAL   MANUAL mode supports a Fixed Board lens or a Manual Iris lens.

DC   DC mode supports an Auto-Iris Varifocal lens.
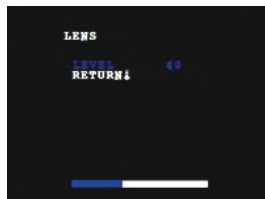
Select DC and control Joystick to adjust the brightness level from **0~99.**

E. SHUTTER

1/60 is the default shutter speed. Select a shutter speed from **X256** to **1/100000**.

Select **1/100FLC** for flickerless mode.

⊕ EXPOSURE

BLC

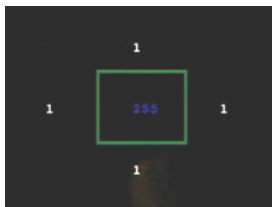Backlight compensation prevents subjects from appearing too dark in defined areas of a scene when backlighting is present.
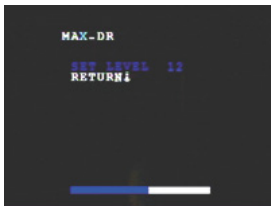

When ON is selected, BLC levels can be adjusted from 0 ~ 255 in five areas.

MAX-DR

Max Dymanic Range provides clear images even when strong backlighing is present. Select Max-DR **ON** or **OFF**.

When ON is selected, the Max-DR level can be adjusted from **0** to **20**.

🎛 EXPOSURE

AGC
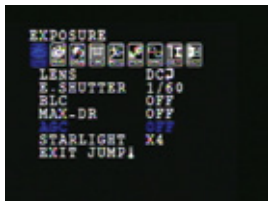
Auto Gain Control automatically adjusts the video gain to enhance picture brightness in low light conditions.

Select AGC **OFF / LOW / MIDDLE / HIGH**.

STARLIGHT

Starlight automatically activates the slow shutter function when a scene is too dark. You can adjust the frame integration level from **X2** to **X256**, or select **OFF**.

EXIT JUMP

EXIT   Exit the OSD without saving.
SAVE & EXIT   Exit the OSD after saving the current settings.
FACTORY SET   Go back to factory default settings.

🎨 COLOR

WB MODE
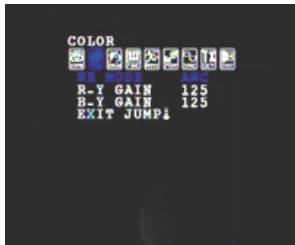
AWC	Auto White Balance Control mode compensates for color temperature changes between 2000K and 18000K.
ATW	Auto Tracking White Balance Control mode compensates for color temperature changes between 2500K and 9500K.
MANUAL	Users can control the white balance manually by changing RED GAIN (M.WB R) and BLUE GAIN (M.WB B).
PUSH	Push fixes the white balance based on current lighting.

R-Y GAIN
0~255

Adjusts the amount of red in the image.

B-Y GAIN
0~255

Adjusts the amount of blue in the image.

EXIT JUMP

EXIT	Exit the OSD without saving.
SAVE & EXIT	Exit the OSD after saving the current settings.
FACTORY SET	Go back to factory default settings.

⬛ DAY NIGHT

DAY & NIGHT

AUTO   Camera switches between day and night automatically depending on certain light levels.

COLOR   Camera always stays in day mode.

BW   Camera always stays in night mode.

※ If **AUTO** is selected, please define the following settings.

- BURST: ON / Off. If ON is selected, the camera provides a color burst signal in night mode. If OFF, no color burst signal is provided.
- COLOR → BW: Adjusts the light level at which the camera switches from day (color) to night (BW) mode. The higher the number, the lower the light level.
- BW → COLOR: Adjusts the light level at which the camera switches from night (BW) to day (color) mode. This number should be lower than the value of COLOR→BW above.

READ TIME
3~12   Sets how many seconds camera waits to adjust between COLOR → BW and BW → COLOR .

C-SUP.
0~100   Adjusts the color suppressing level. (3D-DNR must be OFF to adjust this level.)

A_SUP.
0~100   Adjusts aperture suppressing level. (3D-DNR must be OFF to adjust this level.)

EXIT JUMP

EXIT	Exit the OSD without saving.
SAVE & EXIT	Exit the OSD after saving the current settings.
FACTORY SET	Go back to factory default settings.

📻 FUNCTION

MIRROR
MIRROR / OFF

Flips the image horizontally.

SHARPNESS
0~25

Sets the image sharpness. The higher the number, the sharper the image.

GAMMA

Controls the output signal level. The higher the setting, the darker the dark colors will be. 0.45 is the default.

NEGA
ON / OFF

Negative reverses the color signals (C and Y).

3D DNR

Digital Noise Reduction reduces the noise/distortion on the screen at night, allowing for clearer images in low light conditions.

Select **OFF** / **LOW** / **MIDDLE** / **HIGH**.

DW

FUNCTION

HME

Highlight Masking Exposure masks highlights and allows objects to appear more clearly.
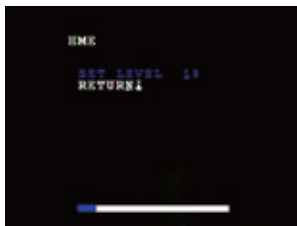
If ON is selected, the HME level can be adjusted from 0-60.

EXIT JUMP

EXIT Exit the OSD without saving.
SAVE & EXIT Exit the OSD after saving the current settings.
FACTORY SET Go back to factory default settings.

 MOTION

MOTION

The camera can detect movement and
display an alarm on the screen.
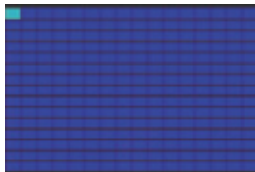
SET WINDOW

If ON is selected, 1 ~ 240 motion areas appear.
Select from **1** to **240** cells. To exit: go to cell in upper right-hand
corner and move joystick to the right to return to the OSD menu.

ALL SET
Select all cells.

ALL CLEAR
Cancel selection.

SENSITI.

Adjusts sensitivity level of
motion detection from **0** to **120** .

MOTION

SHOW INDI. TRACE

Set the motion detection indicator to
OFF / **ICON** / **TRACE.** If ICON is selected, a blue bell
will appear in the upper left hand corner of the screen
when motion is detected. If TRACE is selected, the area
where motion was detected will be highlighted.

DELAY OUT

Select how long the alarm will be dispayed on
the screen when motion is detected.

Choose from **1** to **15** seconds.

EXIT JUMP

EXIT	Exit the OSD without saving.
SAVE & EXIT	Exit the OSD after saving the current settings.
FACTORY SET	Go back to factory default settings.

PRIVACY

You can hide some parts of the screen for privacy masking. Total 6 different privacy masking zones are available.

MASK 1~ MASK 6

OFF / ON   Select On or OFF for each mask (MASK 1 through 6).

If ON is selected, you can set the area to be masked and the shape and color of the mask. Select SET WINDOW. The masking zone will appear. Press the joystick button to select or deselect the gray squares on the corner(s), then move the joystick left, right, up, or down to adjust the shape of the masking zone. Continue pressing the joystick button to return to the OSD menu. To change the color of the box, select COLOR SET.

EXIT JUMP

EXIT	Exit the OSD without saving.
SAVE & EXIT	Exit the OSD after saving the current settings.
FACTORY SET	Go back to factory default settings.

SYNC

SYNC MODE

Select **AUTO** / **INTERNAL**.

- Select AUTO (L/L) to synchronize video signals when two or more cameras are using AC power in a switching system.
- Select INTERNAL if camera uses DC power.

V-PHASE

When more than two cameras are installed in a switching system, phase difference in the AC power line can occur. Therefore, the vertical phase must be adjusted.

EXIT JUMP

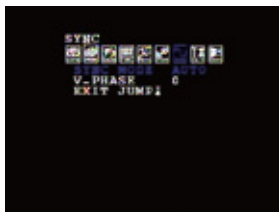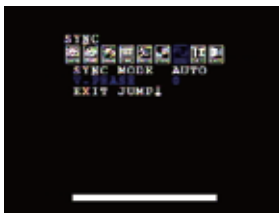|	
EXIT	Exit the OSD without saving.
SAVE & EXIT	Exit the OSD after saving the current settings.
FACTORY SET	Go back to factory default settings.

⊕ SET-UP

CAMERA ID

Assign an ID number for the camera.
Select a value from **0** to **254** .

TITLE

Display a title for the camera on the screen.
Select **ON** / **OFF** .

If ON is selected, define the following settings:

- EDIT to select characters.
- RESET to clear the title.
- POSITION to select where to display the title.

SET-UP
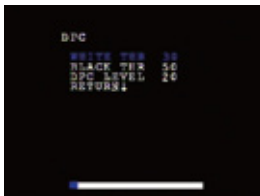
DPC (Dead Pixel Cancellation)

Dead Pixel Cancellation automatically removes defective pixels in real time.

Select **OFF** or **AUTO**.

If AUTO is selected, define the following:
- WHITE THR.: Cancels the white defective pixels.
- BLACK THR.: Cancels the black defective pixels.
- DPC LEVEL: Adjusts the sensitivity level of the dead pixel cancellation.

MONITOR

Select the monitor setting based on the monitor you use.

Select **CRT** / **LCD**.

⏨ SET-UP

LANGUAGE
Select langauge to dispay on the monitor.

Select **ENG** / **CHN**.

BAUDRATE
Adjust the data communication speed.

Select **2400** / **4800** / **9600** / **14400** / **19200** / **38400**.

SET-UP

OMNI LENS

Set the OMNI LENS menus when you use an Omni Focus Lens.

If **0** (=ON) is selected, set the following sub-menus:

- **ALARM**   Works with the MOTION DETECT function. When motion is detected, the camera gives off an alarm. Select ON or OFF.
- **READ TIME**   Set how many seconds to stay zoomed in when alarm occurs. Select from **3** to **12 seconds.**
- **ALARM ZOOM** Set zoom rate when alarm occurs. Select from **0** to **44** .
- **STAND BY**   The zoom rate in a normal scene. Therefore, when an alarm disappears, the zoom rate goes back to the STAND BY rate. Select from **0** to **44** .

EXIT JUMP

EXIT   Exit the OSD without saving.
SAVE & EXIT   Exit the OSD after saving the current settings.
FACTORY SET   Go back to factory default settings.

▣ EXIT

EXIT
Exit the OSD without saving.

SAVE & EXIT
Exit the OSD after saving the current settings.

FACTORY SET
Go back to factory default.

TROUBLESHOOTING

Before sending your camera for repair, check the following or contact one of our technical specialists.

No VIDEO
Check the coaxial cable and make sure it is connected securely.
Check the lens' iris adjustment at the menu setup of the camera.
Check the power supply and make sure the camera has the proper voltage and current.

Out-of-Focus VIDEO
Check the clear dome cover and the lens for dirt or fingerprints. Use a soft cloth and gently clean.
Check the lens manual focal and zoom adjustment. Field test monitor is recommended.

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 8:30AM to 8:00PM
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.

LIMITS AND EXCLUSIONS*

There are no express warranties except as listed above.
The Warrantor will not be liable for incidental or consequential
damages (including without limitation or damage to recording media),
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 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 address listed on the last page.

Service calls which 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.

SPECIFICATIONS*

VIDEO	
Image Sensor	960H Sharp CCD
Total Pixels	1020 (H) x 507 (V), 520K Pixels
Scanning System	2 : 1 Interlace
Frequency	15.734KHz (H), 59.95Hz (V)
Synchronization	Internal or Auto
Horizontal Resolution	650 TV Lines [Color], 700 TV Lines [B/W]
Minimum Illumination	F1.2 (30IRE): 0.3 Lux [Color]
	F1.2 (30IRE): 0.0 Lux [B/W]
S/N Ratio	50dB (AGC off)
Video Output	CVBS: 1.0Vp-p / 75 Ω
LENS	
Focal Length	3.3-12mm
Lens Type	DC Auto Iris
IR Distance	100ft Range IR
OPERATIONAL	
Shutter Speed	MANUAL / 1/60s-1/100000s
Backlight	OFF / BLC / HME / EWDR
AGC	OFF / LOW / MID / HIGH
Star-Light	OFF / X2-X256
3D-DNR	OFF / LOW / MID / HIGH
White Balance	AWC / ATW / MANUAL / PUSH
Day and Night	AUTO / COLOR / BW
Mirror	OFF / MIRROR
Sharpness	0-25
Gamma	MANUAL / 0.45 / 0.60 / 1.00

Motion Detection	OFF / ON
Privacy Zones	OFF / ON (6 Programmable Zones)
Title	ON / OFF (Up to 16 Characters)
Language	ENGLISH / CHINESE

ENVIRONMENTAL

Operating Temperature	-10℃ ~ 55℃ (14℉ ~ 131℉)
Operating Humidity	Less than 90% (Non-Condensing)
Storage Temperature	-20℃ ~ 70℃ (-4℉ ~ 158℉)
IP Rating	IP66 (Protects against dust and high pressure water.)

ELECTRICAL

Power Requirement	Dual (DC12V & AC24V)
Power Consumption	DC12V: 3.5W, 291.7mA / LED ON 7.3W, 608.3mA
	AC24V: 3.9W, 162.5mA / LED ON 7.1W, 295.8mA

MECHANICAL

Housing Material	Aluminum
Dimensions	222 X 89 mm (8.7 X 3.5 in)
Weight	1.52 lbs

*Specification is subject to change without prior notice.

MEMO

DW DIGITAL WATCHDOG
Everything's Digital