

# Starlight MPA Box Camera

DWC-C261T





### ABOUT MANUAL

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 kitchen or a 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 he 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 wih the instruction manual, it may cause harmful interference to radio communications.

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



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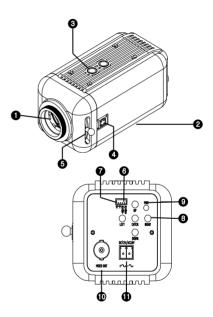
# **FEATURES\***

- 1/3" Sony 1.3M CMOS
- 820 TV Lines [B/W], 800 TV Lines [Color]
- Compatible with C/ CS Mount Lenses
- True Day & Night with IR Cut Filter
- 3D DNR (3D Digital Noise Reduction)
- WDR (Wide Dynamic Range)
- Star-Light (Super Low Light Technology)
- HME (Highlight Masking Exposure)
- Defog (Extreme Weather Image Copmensation)
- Digital Quick Zoom & 8x Digital Zoom
- 16:9 and 4:3 Viewing Modes
- 1 Alarm Output
- AGC / BLC / AWB
- Privacy Zones (16) & 4 Motion Detection Zones
- Camera Control via RS-485/ UTC
- RS485 Built-In

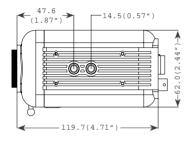


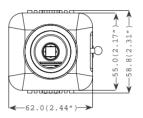
# **PARTS & DESCRIPTION\***

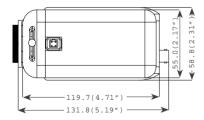
- 1 Lens Connector
- Box Camera
- Moun ing Bracket Connectors
- A-Iris Socket
- 6 Back Focus
- 3 Alarm +/-
- RS485 Connector
- OSD Control Arrows and Enter Buttons
- Power LED
- ® BNC Video Output
- AC / DC Power Input Terminal Block



# **DIMENSIONS IN MILLIMETERS (IN)\***









# **INSIDE THE BOX\***

### Included with C2 Box Camera

- 1 Color Box
- 2 User Manual
- 3 Mini-DIN Connector (For Video or DC Auto Iris Lens)
- 4 Adapter Ring for "C" Type Lenses
- 5 Two-Port Terminal Block (for AC or DC Power Connection)
- G Cable Extension for Alarm In / Out and RS-485



# **INSTALLATION\***









- Using an appropriate mounting bracket, mark and drill the necessary holes to mount the bracket to a wall or ceiling.
- 2 Attach the mounting bracket to the surface using machine screws.
- 3 Attach the box camera to the moun ing bracket.
- Adjust the camera's position. Consult the manual of he mounting bracket for addi ional information.



# **INSTALLATION\***



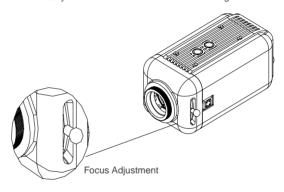




- Onnect an appropriate lens to he camera lens connector by twisting he lens clockwise. The camera is compatible with any C or CS mount lens. For "C" lenses, please use the provided Adapter Ring. See page 10 for details. \*Lens is not included.
- 6 Connect the lens' cable to the box's A-Iris Socket
- Adjust the lens' zoom and focus accordingly. Consult the manual of the lens for additional information.

# **ADJUSTMENT OF BACK FOCUS\***

Please make sure the lens is C or CS Mount.
To use C Mount lens, please insert the included C ring to the lens; then insert the lens.
To use CS Mount lens, fix the lens directly into the front camera without the C ring.



- 2 To adjust the focus, slide the focus lever on the side of the front camera.
- 3 Please tighten the focus lever after he adjustment in order to prevent being out of focus.



# **MODULE OSD MENU\***

EXPOSURE	COLOR	DAY & NIGHT	FUNCTION	
LENS MANUAL/DC BACKLIGHT OFF/HME/BLC/WDR DRC OFF/OW/MIDDLE/HIGH DFF/OW/MIDDLE/HIGH DFF/OW/MIDDLE/HIGH DFF/OW/MIDDLE/HIGH DFF/OW/MIDDLE/HIGH EXTAGLIGHT OFF/OW/MID/HIGH EXIT JUMP SAVE & EXTIFERIT	WB BAL. ATW / AWB / PUSH / MANUAL COLOR GA N COLOR GA N EXIT JUMP SAVE & EXIT / EXIT	D&N MODE AUTO (ODLOR/ PBAW) CONTROL AUTO (EXT) AUTO (EXT) AUTO (EXT) AUTO (EXT) AUTO (EXT) AUTO (OTF) DELAY LOW/ MIDDLE / HIGH B&W BURST OFF (ON) SMART IR C. SAMART IR E. STIT JUMP SAVE & EXIT / EXIT	SHARPNESS  -10 -10 -10 -10 -10 -10 -10 -10 -10 -1	
MOTION	PRIVACY	SETUP	EXIT	
MOTION OFF / ON ALARM SHAKING - OFF / ON SHAKE SCALE - 0-20 BRIGHT CHG OFF / ON BRIGHT SCL 0-20 — QUICK ZOOM OFF / ON EXIT JUMP SAVE & EXIT / EXIT	ZONE NUM. 0 - 15 ZONE DISP. 0FF/ON H-POS. 0 - 39 V-POS. 0 - 30 H-SIZE 0 - 40 V-SIZE 0 - 20 CR LEVEL 0 - 20 CR LEVEL 0 - 20 EXIT JUMP SAVE & EXIT/EXIT	COMMUNICA. CAM ID (0 - 255) BAUDRATE (2400 / 4800 / 9600 / 57600 / 115200)  VIEW ANGLE MORMAL / 4 3 / 16 9 LANGUAGE ENGLISH / CHINESE (CHINESE (S) / JAPANISE / KOREAN SPECIAL DEFECT DET. / TV MODE / O.L.P.F INITIAL ON EXIT JUMP SAVE & EXIT / EXIT	SAVE & EXIT — EXIT	



# **EXPOSURE**



### **LENS**

Manual Manual mode supports the fixed board lens or the manual

iris lens.

DC DC mode supports the auto-iris varifocal lens.

NOTE: Both MANUAL and DC mode have FOCUS ADJ. You can adjust the focus by finding the highest number on he FOCUS SET.

### DC Lens Submenu



### MANUAL Lens Submenu

MODE

MODE
DEBLUR
BRIGHTHESS
SHUTTER
AUTO
FOCUS ADJ.
RETURN

Mode: MANUAL: Set the lens mode to Normal or Deblur.

DC: Set he lens mode to Outdoor, Indoor, or Deblur.

Brightness: Adjust the camera's brightness from 0~20. The higher the

number, the brighter the image will appear.

Shutter: Set he shutter speed to AUTO, Manual, or FLC (Flicker-less mode).

Select FLC if the camera is experiencing some flickering in the image. If selected, the

shutter speed will automatically be set to 1/100 for NTSC, or 1/120 for PAL.

If Manual is selected, set the shutter speed from 1/60 to 1/60000.

Focus Adjustment: When on, he default level is set automatically by controlling lens focus and based on the installation and environment circumstances.





# **EXPOSURE**

### BACKLIGHT OFF

# HMF HIGHLIGHT MASKING EXPOSURE

HME allows objects to appear clearly on the screen by masking extremely bright areas. To setup HME, set the level and mode. The lower the setting, the darker the masking areas have to be. Select from: 0 ~ 20.

Mode: Select when to enable HME settings. Select from

All Day (Run HME always), or Night Only (HME is enabled only in B/W mode).

### BLC BACK LIGHT COMPENSATION

If BLC is selected, adjust the size nad position of the mask:

- H-POS: Move the Zone position left or right. The higher the number, the zone will move to the right.
- V-POS: Move the Zone position up or down. The higher the number, the zone will move down.
- H-Size: Reset the zone's size horizontally. The higher the number, the right side panel will move further to the right.
- V-Size: Reset the zone's size vertically. The higher he number, the bottom side panel will move further down.

### WDR Wide Dynamic Range

If WDR is selected, adjust the WDR level in the submenu. Select from Low, Middle, or High (Default).







# **EXPOSURE**

### DRC

### DYNAMIC RANGE COMPRESSOR

DRC enables dark areas in images to become more visible wi hout overexposing the bright areas to create one perfect image. Select from: Off, Low, Middle, or High

NOTE: If WDR or DEFOG are enabled, the DRC set ings are set automatically and will not be available for adjustment.

### DEFOG

Allows he camera to process a scene that is obscured by fog or weather conditions and provides a visibly improved image.

AUTO / Manual: Select AUTO to have the WDR and DRC levels adjusted automatically. Set he DEFOG level from LOW / MIDDLE / HIGH.





### AGC AUTO GAIN CONTROL

AGC enhances the picture brightness in low light conditions. A higher level AGC setting makes the images brighter; however, it could increase the amount of noise.

### **STARLIGHT**

OFF / x2 ~ x64 (Default: X4) Automatically activates slow shutter function when the image is too dark. High values are not recommended as they may causes he image to lag. Starlight menu cannot be controlled if the SHUTTER setting is above 1/60.

### 3D DNR

0~20

OFF/ LOW/ MID/ HIGH

### 3D DIGITAL NOISE REDUCTION

3D-DNR reduces the noise on the screen in low light conditions and allows for clearer images, even at night.





# COLOR

### WR MODE

ATW Auto Tracking White Balance Control mode compensates for color temperature changes

between 2400K° and 11000K°.

AWB Auto White Balance Control mode compensates for color temperature changes

lower than 2000K° and higher than 15000K°.

**PUSH** Push fixes the white balance based on he current lighting automa ically.

MANUAL Users can control the white balance manually by changing RED GAIN and BLUE GAIN (see below).

KELVIN: Select from Low, Middle, or High. If enabled, the Red and Blue Gain settings will be set automatically according to the Kelvin settings.

RED GAIN: 0 ~ 20. Adjusts the amount of red in the image.

BLUE GAIN: 0  $\sim$  20. Adjust the amount of blue in the image.



### **COLOR GAIN**

Set the color gain from 0~20.



# DAY & NIGHT

D&N MODE

ALITO / In AUTO mode, the camera switches between day and night automatically depending on light level. If COLOR is selected, the camera always stays in day/color mode. COLOR / B&W

If B&W is selected, camera always stays in night/B&W mode.

### CONTROL

Select if he Day/ Night switch will be based on the AGC levels (AUTO), or using IR LED lights (EXT.)

AUTO: if selected, Day/ Night switch will depend on the AGC levels.

- AGC Threshold: Set when the camera switches between Day & Night.
- AGC Margin: Set the value added to the AGC Threshold. Adjust the value based on the environment in which the camera is installed.
- Night Mode: Select what will the camera do when light threshold is met for "Night Mode". Select to keep in color, or switch to B&W.
- At he bottom of the screen, the settings will be summarized for your review. The information includes (according to current settings), the AGC threshold for Day to switch to Night, AGC threshold for Night to switch back to Day, and current AGC level, for reference.

EXT.: if selected, adjust the external signal to CDS or LOW/HIGH.

- Low/ High: The camera's Day/ Night switch will be set according to an external LED board. Set to HIGH to make the camera switch to night mode only when there is very little light.
- Night Mode: Select what will the camera do when light threshold is met for "Night Mode". for "Night Model". Select to keep in color, or switch to B&W.
- At he bottom of the screen, the settings will be summarized for your review. The information includes (according to current settings), the EXT level for Day to switch to Night, EXT level for Night to switch back to Day, and current EXT level, for reference.









# **DAY & NIGHT**

### **CONTROL (CONT.)**

- CDS: The camera's Day/ Night switch will be set according to the LED board in the camera.
  - \* CDS Threshold: Marks the light level at which the camera will switch between color and B/W. The lower he value, the camera will require less light (more darkness) to switch to Night Mode.
  - \* CDS Signal: The value added to the CDS Threshold. Adjust this value based on the environment in which the camera is installed.
- Night Mode: Select what will the camera do when the light threshold is met for "Night Mode!". Select to keep in color, or switch to B&W.
- At the bottom of the screen, the settings will be summarized for your review. The informa ion includes (according to current settings), the CDS threshold for Day to switch to Night, CDS threshold for Night to switch back to Day, and current CDS level, for reference.



### **EXT LED**

AUTO / OFF AUTO: Enables the IR LED board. OFF: disable the camera's LEDs.

### **DELAY**

Low/Mid/High Time interval delay before switching from day mode to night mode.

### **B&W BURST**

ON / OFF If ON is selected, the camera provides a color burst signal in night mode.

### **SMART IR**

0 ~ 20 Enable Smart IR and set the level. Higher values will make Smart IR stronger.



# **FUNCTION**

### **SHARPNESS**

0 ~ 10 Sets he image sharpness. The higher the number, the sharper the image.

### **GAMMA**

0.45 ~ 0.65 Select the desired gamma level. 0.55 is default setting.

### MIRROR / FLIP

OFF

M RROR Reflects the camera horizontally.

FLIP Reflects the camera vertically.











Mirror / Flip OFF

Mirror ON

Flip ON Mirr

Mirror & Flip ON

### D-Zoom

 $1.0x \sim 8.0x$  Enable or Disable Digital zoom to the camera's field of view. By default, he zoom will go to the center of the camera's Field of View.





# **MOTION**

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

### **MOTION**

OFF/ON Select to enable or disable the camera's motion detection. If ON is selected:

### **DET. SETTINGS**

Use this submenu to adjust the motion detection's sensi ivity, detection dwell time, Motion Estimate, and setup a Signal Output Action:

- Sensitivity: The smaller he movement you want to detect, the higher the sensitivity value must be.
- Object Keep LV: Set the dwell time for how long motion is detected.
- Mo ion Es imate: Predicts possible direc ion once mo ion is disappeared by wall or curtain. The lower the number, the more sensitive the camera will be to new motion once detected.
- Signal Out: If Alarm is enabled, when motion is detected, the camera can support 3.3V power output to



### **MOTION SET**

- Window Tone: Set the size of the zone's borders.
- Window Zone: The camera supports up to 4 different mo ion detection zones.
- Window Use: Select which one of the motion areas to enable.
- DET H-POS: Move the Zone left or right. The higher the number, the zone will move to the right.
- DET V-POS: Move the Zone up or down. The higher the number, the zone will move down.
- DET H-Size: Adjust the zone's size horizontally. The higher the number, the right side panel will move further to the right.
- DET V-Size: Reset the zone's size vertically. The higher the number, the bottom side panel will move further down.



# **MOTION**

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

Select to enable or disable he camera's motion detection, and select which conditions will trigger the alarm from the following op ions:

- Shaking (ON / OFF): "Camera Moving!!" will appear if the camera is shaken abruptly.
- Shaking Scale (0 ~ 20): The lower the number, the more sensitive the camera will be to shocks or vibra ions.
- Bright Change (ON / OFF): "Birght Change!!" will appear if the brighness in the scene changes suddenly and drstically.
- Bright Scale (0 ~20): The lower the number, the more sensitive the camera is to brightness changes in the scene.

# 

### QUICK ZOOM

The camera can automa ically digitally zoom in when mo ion is detected. In he submenu, setup he following:

- MOVING: Set the camera's movement speed. 30/60 (0 5 Second) is the default speed. Max speed: 240/60 (4 Seconds).
- ZOOM IN: Set the camera's zooming speed. 30/60 (0 5 Second) is he default speed. Max speed: 240/60 (4 Seconds).
- STAND BY: Setup the dwell time for the camera to remain zoomed in. 30/60 (0.5 Second) is he default speed. Max speed: 240/60 (4 Seconds).
- SYNCHRONOUS: Set by default. Should not be changed.
- TRACKING: The camera keeps tracking the moving area and operates Zoom In/Out
- REPEAT: The camera will continue to zoom into motion as it detects it in different parts of the camera's view.







# **PRIVACY**

You can hide some parts of the screen for privacy masking. A total of 8 different privacy masking zones are available.

### **PRIVACY SET**

- Select the zone number you want to setup.
- To enable it, turn the display option ON.
- H-POS: Move he Zone position Left or right. The higher the number, the zone will move to the right.
- V-POS: Move the Zone position up or down. The higher the number, the zone will move down.
- H-Size: Reset he zone's size horizontally. The higher the number, the right side panel will move further to the right.
- V-Size: Reset the zone's size vertically. The higher the number, the bottom side panel will move further down.

### MASK COLOR

To adjust the mask's color, use the Y, CR, and CB Levels:

- Y Level- The higher the number, the brighter the color 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- High CB Level + High CR Level = Red High CB Level + Low CR Level = Blue Low CB Level + High CR Level = Orange

# SETUP

### COMMUNICATION

Use this setup menu to adjust the camera's ID and Baudrate. The camera's default Protocol is Pelco-D.

- CAM ID: Provide an ID number for the camera ( $0 \sim 255$ ).
- BAUDRATE: 9600bps is default. Select the baudrate from the following options: 2400/4800/9600/57600/115200 bps.

# SETUP COMMUNICA, J YEM ANGLE 4; 3 LANGUAGE ENG SPECIAL J INITIAL EXIT JUMP,

### **VIEW ANGLE**

4:3 / 16:9 / Adjust the camera's aspect ratio. By default, the camera is set to NORMAL 4:3. If applicable, set it to 16:9.

### **LANGUAGE**

The Camera supports the following languages: English (Default), Chinese, Chinese (S), Japanese, and Koran.

### **SPECIAL**

DEFECT DET.: The camera can detect and correct dead pixels in the image. To do so, press the select button and set the hreshold level. The camera will detect and adjust the pixels automa ically.

TV MODE: Set the camera to NTSC (Default) or PAL.

OLPF: Select the filter that you use from RED and PASS, then reboot the camera to use



### INITIAL

Reset the camera to its factory default settings. To do so, press and hold the select button for five (5) seconds.





# **EXIT**

EXIT SAVE

Exit the OSD menu after saving the recent changes.

INITIAL Exit the OSD menu after resetting the camera to factory default.





### 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 lens' iris adjustment at the camera's OSD menu.

Check the power supply and make sure the camera has the proper voltage and current.

### FOR 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. The use of a 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 defec ive, 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 9:00AM 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 he Warrantor or failures which result from accident, misuse, abuse, neglect, mishandling, misapplication, altera ion, 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 & 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 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 5436 W. Crenshaw Street Tampa, FL 33634

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	1/3" Sony 1.3 Mega Pixel CMOS Sensor		
Active Pixels	1280 (H) x 1024 (V)		
Scanning System	2 : 1 Interlace		
Frequency	15.734KHz (H), 59.95Hz (V)		
Synchronization	Internal		
Horizontal Resolution	820 TV Lines [B/W], 800 TV Lines [Color]		
Minimum Illumination	F1.2 (30IRE): 0.14 Lux [Color]		
	F1.2 (30IRE): 0 03 Lux [B/W]		
S/N Ratio	55dB (AGC off)		
Video Output	CVBS: 1 0Vp-p / 75 Ω		
Alarm Output	1 Alarm Output		
LENS			
Lens Type	Compatible with C & CS Mount Lenses		
OPERATIONAL			
Shutter Speed	50(60) ~ 60,000s		
Backlight	OFF / HME / BLC / WDR		
Star-Light (Sense-Up)	OFF / x2 ~ x64		
3D-DNR	OFF / Low / Middle / High		
White Balance	ATW /AWB/ PUSH / MANUAL		
Day and Night	Auto / Day / Night		
Mirror/ Flip	OFF / ON		
Auto Gain Control	0 ~ 20		

# **SPECIFICATIONS\***

OPERATIONAL	OPERATIONAL			
Intelligent Motion Detection	Digital Quick Zoom			
Motion Detection	4 Motion Regions			
Privacy Zones	16 Programmable Privacy Masks			
Sharpness	0 ~ 10			
Gamma	0.45 ~ 0.65			
De-Fog	OFF/ ON			
ENVIRONMENTAL	ENVIRONMENTAL			
Operating Temperature	-20°C ~ 60°C (-4°F ~ 140°F)			
Operating Humidity	Less than 90% (Non-Condensing)			
ELECTRICAL	ELECTRICAL			
Power Requirement	Dual Voltage (DC12V, 24VAC)			
Power Consumption	DC12V: 2 5W, 208 mA			
	AC24V: 2.75W, 114 mA			
MECHANICAL				
Housing Material	Plastic			
Dimensions	119.7 x 58.8 x 62 mm (4.71 x 2.31 x 2.48 lnch)			
Weight	0 5 lbs			

\*Specification is subject to change without prior notice.



MEMO*		
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### **Everything's Digital**

5436 W Crenshaw St. Tampa, FL 33634 Tel : 866-446-3595 / 813-888-9555

Fax: 813-888-9262 www.Digital-Watchdog.com technicalsupport@dwcc.tv

Technical Support Hours : Monday-Friday 9:00am to 8:00pm EST