# MEGApix<sup>®</sup> PTZ<sup>™</sup> 3MP and 4K IP Cameras (HW A)

DWC-XPZA03Mi - 3MP high-speed IP PTZ camera, 60fps DWC-XPZA08Mi - 4K high-speed IP PTZ camera, 30fps



# User's Manual Ver. 12/24

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

- This product is intended to be supplied by a Listed Power Unit, marked with 'Limited Power Source,' 'LPS' on the unit, output rated minimum POE 48V/ 350mA, no more than 2000m altitude of operation and 60 degrees C.
- As for the modes with PoE function, the function of the ITE being investigated to IEC 60950-1 standard is considered not likely to require connection to an Ethernet network with outside plant routing, including the campus environment, and the ITE is to be connected only to PoE networks without routing to the outside plant.
- Do not try to disassemble the camera; do not remove screws or covers to prevent electric shock.
- There are no user-serviceable parts inside. Please contact the nearest service center as soon as possible if there is any failure.
- Avoid incorrect operation, shock vibration, and heavy pressing, which can cause damage to the product.
- Do not use a corrosive detergent to clean the camera's main body. If necessary, please use a soft, dry cloth to wipe dirt; for hard contamination, use neutral detergent. Any cleanser for high-grade furniture is applicable.
- Avoid aiming the camera directly towards extremely bright objects, such as the sun, as this may damage the image sensor.
- Please follow the instructions to install the camera. Do not reverse the camera, or the reversing image will be received.
- Do not work the camera if temperature, humidity and power supply exceed the limited stipulations.
- Avoid heat sources such as radiators, heat registers, stoves, etc.
- Do not expose the product to the direct airflow from an air conditioner.
- This manual is for using and managing the product. We may reserve the right to amend the typographical errors, inconsistencies with the latest version, software upgrades and product improvements, interpretation and modification. These changes will be published in the latest version without special notification.
- This manual's pictures, charts, and images are only for describing and explaining our products. In this manual, the trademarks, product names, service names, company names, and products our company does not own are the properties of their respective owners.

#### Disclaimer

- Concerning the product with internet access, the use of the product shall be wholly at your own risk. Our company shall be responsible for abnormal operations, privacy leakage, or other damages resulting from cyber-attacks, hacker attacks, virus inspection, or other internet security risks; however, our company will supply timely technical support if necessary.
- Surveillance laws vary from country to country. Check all laws in your local Region before using this product for surveillance purposes. We shall not take the responsibility for any consequences resulting from illegal operations.

#### Cybersecurity Recommendations

- Use a strong password. At least eight (8) characters or a combination of characters, numbers and upper- and lowercase letters should be used in your password.
- Change the passwords periodically to ensure only authorized users can access the system (the recommended time is 90 days).
- Changing the service default ports (like HTTP-80, HTTPS-443, etc.) is recommended to reduce the risk of outsiders being able to access.
- It is recommended to set up a security system for your router. Important ports such as HTTP, HTTPS and dual ports cannot be closed.

- It is not recommended to expose the device to the public network. When it is necessary to be exposed to the public network, please set the external hardware security system and the corresponding security system policy.
- It is not recommended to use the v1 and v2 functions of SNMP.
- To enhance the security of WEB client access, please create a TLS certificate to enable HTTPS.
- Use black- and white- lists to filter the IP address. This will prevent everyone, except those specified IP addresses, from accessing the system.
- If you add multiple users, limit the functions of guest accounts.
- If you enable UPnP, it will automatically try to forward ports in your router or modem. It is very convenient for users, but this will increase the risk of data leakage when the system automatically forwards ports. Disabling UPnP is recommended when the function is not used in real applications.
- Check the log. If you want to know whether your device has been accessed by unauthorized users or not, you can check the log. The system log will show you which IP addresses were used to log in to your system and what was accessed.

#### **Regulatory Information**

**FCC** Information

1. FCC compliance

The products have been tested and found in compliance with the council FCC rules and regulations part 15 subpart B. These limits are designed to provide reasonable protection against harmful interference. This equipment generates uses and can radiate radio frequency energy and, if not installed and used following the instruction manual, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. If harmful interference occurs, the user must correct the interface at his own expense.

2. FCC conditions:

The operation of this product is subject to the following two conditions: (1) this device may not cause a harmful interface, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**CE** Information

CE The products have been manufactured to comply with the following directives.

#### EMC Directive 2014/30/EU

2012/19/EU (WEEE directive): The Directive on waste electrical and electronic equipment (WEEE Directive). To improve the environmental management of WEEE, improving the collection, treatment and recycling of electronics at the end of their life is essential. Therefore, the product marked with this symbol must be disposed of responsibly.

Directive 94/62/EC: The Directive aims to manage packaging and packaging waste and environmental protection. The packaging and packaging waste of the product in this manual must be disposed of at designated collection points for proper recycling and environmental protection.

REACH(EC1907/2006): REACH concerns the Registration, Evaluation, Authorization and Restriction of Chemicals, which aims to ensure a high level of protection of human health and the environment through better and earlier identification of the intrinsic properties of chemical substances. The product in this manual refers to conforms to the rules and regulations of REACH. For more information on REACH, please refer to DG GROWTH or ECHA websites.

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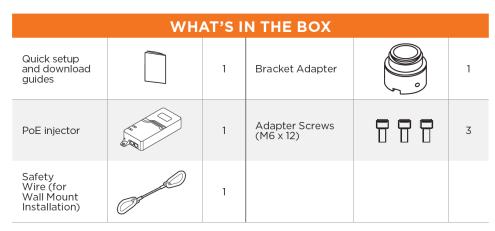
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# 1 Introduction

# 1.1 Product and Accessories

Make sure that you have the following items supplied with your camera. If any items are missing or damaged, notify your vendor immediately. Keep the packing utilities for moving or storage purposes afterward.



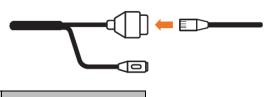
NOTE: the camera requires a mounting accessory for complete installation, sold separately. Below are compatible mounting accessories for these cameras:

- DWC-PZPARAMW2 parapet mount bracket.
- DWC-XPZAWM wall mount bracket.
- DWC-XPZACNM corner mount.
- DWC-XPZAPLM pole mount.
- DWC-XPZACM ceiling mount bracket.

# 2 Installation

# 2.1 Powering the Camera

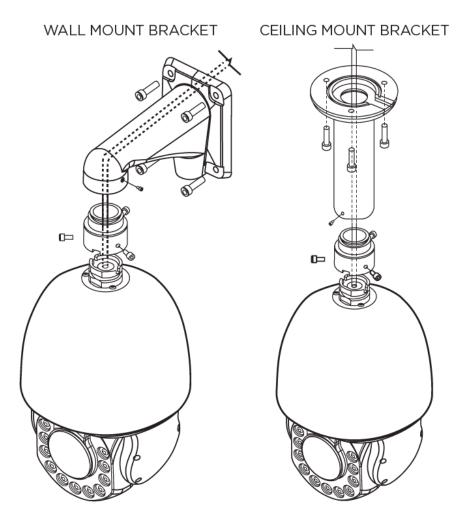
Pass the wires through and make all necessary connections. Using a single Ethernet cable, use the PoE Injector included with the camera to connect data and power to the camera.



Power requirements	Power consumption
PoE IEEE 802.3bt PoE++ Class7 (PoE injector included)	75W, 1.363A

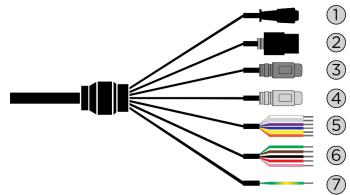
# 2.2 Installation

- Install the mounting accessory (sold separately) to the mounting surface according to the installation guide. A mounting accessory is required to install the camera properly. All mounting accessories are sold separately.
- 2. Pass wires through the mounting bracket.
- 3. Connect the camera's base to the mounting accessory's neck using the bracket adapter. Secure the camera to the adapter using the adapter screws included with the camera. Secure the camera to the mounting bracket using the screws on the side of the mounting accessory neck.
- 4. If you are using the wall mount bracket accessory, use the safety wire included with the camera to secure the camera to the bracket's neck.
- 5. Connect all wires to the camera.
- 6. Remove the protection film and moisture silica gel when the installation is complete.



# 2.3 Cabling

Connect the power, network, audio and other supported external devices to the camera.



Number	Connector	Wire Color	Description
1	Reset Switch	Black	Reset button (reset IP address and username/password)
2	RJ-45	Black	Ethernet Port

3	RCA Jack	Red	Audio Input
4	RCA Jack	White	Audio Output
5	6-pin Cable	White	Alarm Output1
		Gray	Alarm Com1
		Purple	Alarm Output2
		Blue	Alarm Com2
		Yellow	RS485 -
		Orange	RS485 +
6	5-pin Cable	Green	Alarm Input1
		Brown	Alarm Input2
		Black	Alam Input3
		Red	Alarm Input4
		Pink	GND
7	1-pin Cable	Green/Yellow	GND

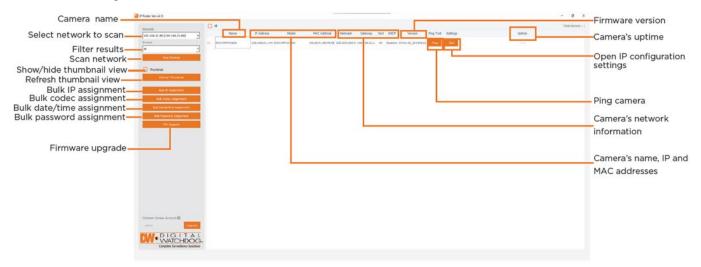
# 2.4 Resetting the Camera

Press the reset button with the camera's cables for five (5) seconds to reset the camera's IP address, username and password. For a camera-wide reset, including network settings, go to the camera's web interface under system settings.

# **3 IP Finder**

Use the DW<sup>®</sup> IP Finder<sup>™</sup> software to scan the network and detect all MEGApix<sup>®</sup> cameras, set the camera's

network settings or access the camera's web client.



- 1. To install the DW IP Finder, go to: http://www.digital-watchdog.com
- 2. Enter "DW IP Finder" on the search box at the top of the page.
- 3. Go to the "Software" tab on the DW IP Finder page to download and install the installation file.
- 4. Open the DW IP Finder and click 'Scan Devices.' It will scan the selected network for all supported devices and list the results in the table. During the scan, the DW<sup>®</sup> logo will turn gray.
- Select a camera from the list by double-clicking on the camera's name or clicking on the 'Click' Button. The pop-up window will show the camera's current network settings. Admin users can adjust the settings as needed. The camera's network settings are set to DHCP by default.
- 6. Click the' Website' button to access the camera's web page.
- 7. To save changes made to the camera's settings, enter the username and password of the camera's admin account and click 'Apply.'

NOTE: Bult password assignment is currently not supported by the cameras.

# **4** System Operation

# 4.1 Accessing the Camera's Web Interface

- 1. Find the camera using the DW IP Finder.
- 2. Double-click on the camera's view in the results table.
- 3. Press the 'View Camera Website.'
- 4. When accessing the camera for the first time, a message will direct you to set up a new admin password to view the video.

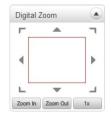
Default ID: admin

Default Password: admin



# 4.2 GUI Overview

- Video Select: Select the Video stream to be viewed. The camera is capable of dual streaming, primary streaming and secondary streaming. Video will be displayed according to the resolution set on the video configuration settings. The secondary video is unavailable if dual streaming ("Use Dual Encode" Menu on the Video page) is unavailable.
- <u>View Size</u>: Adjust the size of the camera's view. This does not impact the camera's optical or digital zoom.
- <u>Digital Zoom</u>: Control the camera's digital zoom. The more the camera zooms in, the smaller the square of the control panel is. The position of the zoom frame can be changed by moving the square's position. Pressing the x1 button will return the screen to its full size.
- **PTZ Control:** Use the joystick to control the camera's position and view. The further you move the joystick from the center, the faster the camera will move.
  - Zoom In, Zoom Out: Control the camera's optical zoom to change the camera's view.
  - Stop: Stop ongoing action.
  - Focus Near, Focus Far, Auto Focus: Adjust the lens's focus. Selecting Auto Focus will adjust the camera's focus automatically to the camera's current Field of View (FOV).
  - Select Preset 💌
  - select Preset: Use the drop-down menu to select a preset position for the camera.
  - $\circ$   $\quad$  Go to: Move to the selected preset entry if the preset entry is set.
  - $\circ$   $\;$  Set: Set the current position to the selected preset entry.
  - $\circ$   $\,$  Clear: Delete the selected preset entry.
  - Sensor Input and Alarm Output: Display the Sensor status in real-time. This camera supports one sensor input. When the Sensor is activated, the sensor icon will turn red. Operate the alarm device by pressing the number icon. This camera supports one alarm output. A number icon indicates the status of the alarm device.





- Snapshot: Capture images of the camera's current view and save them locally on your computer as BMP or JPEG files.
- 0 Talk: Transfer Audio from the computer's microphone to the camera.
- Start File Record: Record an AVI file of the camera's live view. The generated file is saved in the download folder.

- 1. Enter the desired name for the file.
- 2. Press the "Start" button to start recording.
- 3. Press the "Stop" button to stop recording.
- 4. An AVI file named "IP address\_hh\_mm\_ss" or "File name\_IP address\_hh\_mm\_ss" will be generated.
- Set the number of video frames to be buffered before being displayed on 
  <u>Display Buffer:</u> Set the number of video frames to be buffered before being displayed on the web browser—a larger value results in smoother video by sacrificing latency. A setting of 10 ~ 15 frames can be used for most situations.

# **5** Remote Configuration

# 5.1 Using Web Browser

Press the **Setup** button in the upper right banner to go to the setup. The camera setup is available for users at a higher level than a manager. The configurations are categorized: **Video and Audio, Image, Network, Event, Device, AI, PTZ, User, and System.** Each category is expandable by pressing the '+' button to the right of the section's name to find additional settings and options.

# 5.2 Video & Audio

### 5.2.1 Information

The information tab provides current information regarding the settings for video and Audio. The information is not editable from this screen. To adjust any of the settings shown, go to the Video or Audio subcategories.

🕉 Video&Audio	- Video							
<ul> <li>Information</li> </ul>			Enable	Algorithm	Resolution	Bitrate	Framerate	
- Video	Primary Enco	ding	On	H.264	3840x2160	9998 (kbps)	30 (fps)	
- Audio	Secondary#1	Encoding	On	H.264	640×480	664 (kbps)	14 (fps)	
Output	Secondary#2	Encoding	Off	N/A	N/A	0 (kbps)	0 (fps)	
🛉 Image	+ Secondary#3	Encoding	Off	N/A	N/A	0 (kbps)	0 (fps)	
Network	+							
Event	+ Audio							
Device	+			ble Algorithm		Sampling rate	Bitrate	
AI	+ Audio Encodi		On	G.711	8	3 KHz	66 (kbps)	
PTZ	+ Audio Decodi	ng	On	-	-		0 (kbps)	
& User	+							

# 5.2.2 Video

Video&Audio	_ Viev	w	
Information			1. 2015
• Video			
- Audio			
• Output			
📸 Image	+		
Vetwork	+	The same	100
🐻 Event	+		
Device	+	SHUR AND A	-
AI	+		
🏝 PTZ	+		4.
& User	+		
👌 System	+		
	Per	rformance Calculation	
		Performance Usage Rate 84%	
	Vide	len	
	Vide		
	Vide	Input Format 3840x2180p30	
	Vide		
		Input Format 3840x2180p30	
		input Format 3840/2180p30 v Smart Stream Secondary#1 v rimary Secondary#1 Secondary#2 Secondary#3	
		rimary Secondary#1 Secondary#2 Secondary#3	
		rimary Secondary#1 Secondary#2 Secondary#3	
		Input Format 3840x2180p30 v Smart Stream Secondary#1 v Algorithm @ H.284 \ H.285 Resolution 3840x2100 v Scaling Framerate 20 v	
		Input Format 3840x2180p30 v Smart Stream Secondary#1 v Algorithm @ H.284 \ H.285 Resolution 3840x2180 v Scaling Framerate 30 v Preference CBR v	
		Input Format 3840x2180p30 v Smart Stream Secondary#1 v Algorithm @ H.284 O H.285 Resolution 3840x2180 v Scaling Framerate 30 v Preference CBR v Quality Economy v	
		Input Format 3840x2180p30 v Smart Stream Secondary#1 v Algorithm @ H.204 O H.205 Resolution 3840x2160 v Scaling Framerate 30 v Preference CBR v Quality Economy v Bitrate 10000 kbps (32 ~ 16384)	
		Input Format 3840x2180p30 v Smart Stream Secondary#1 v rimary Secondary#1 Secondary#2 Secondary#3 Algorithm @ H.284 0 H.285 Resolution 3840x2180 v Scaling Framerate 30 v Preference CBR v Quality Economy v Bitrate 10000 kbps (32 ~ 16384) I-Frame Interval 20	
		Input Format 3840x2180p30 v Smart Stream Secondary#1 v rimary Secondary#1 Secondary#2 Secondary#3 Algorithm  Algorithm  H.264 H.265 Resolution 3840x2160 v  Scaling Framerate 30 v Preference CBR v Quality Economy v Bitrate 10000 kbps (32 ~ 16384) I-Frame Interval 30 H.264 Profile v	
		Input Format 3840x2180p30 v Smart Stream Secondary#1 v rimary Secondary#1 Secondary#2 Secondary#3 Algorithm @ H.284 0 H.285 Resolution 3840x2180 v Scaling Framerate 30 v Preference CBR v Quality Economy v Bitrate 10000 kbps (32 ~ 16384) I-Frame Interval 20	

#### Performance Calculation

The calculator shows the performance usage rate according to the value set at 'Encode' mode underneath.

#### <u>Video</u>

Video > Input Format:

- Video > Smart Stream:
- Stream Selection: Select ON to enable Secondary #1 ~ #2. The secondary streams can be viewed on the Live View window by selecting Stream number on Video selection.
- Algorithm: Set the stream to H.264 (default) or H.265. MJPEG is available on secondary streams only.

- Resolution: Select a video encoding solution. The scaling option is used when the encoding resolution differs from the input resolution. Without the Scaling option, the input video will be cut according to the encoding resolution. If Scaling is selected, the input video will be adjusted according to the encoding resolution.
- Framerate: Determine the maximum number of frames per second for the video stream.
   1,2,3,4,5,6,8,10,15,20,25,30 and 60 frame rate can be selected. The actual frame rate of video can be less than the maximum frame rate set due to the network bandwidth limitation.
- Preference: Select encoding mode to control video quality or bitrate: Quality(VBR) or Bit rate(CBR and Hybrid). If 'Bitrate' is selected, the video encoding will be affected by the 'Bitrate' value entered.
   Therefore, "Bitrate" mode corresponds to CBR (Constant Bit Rate) or Hybrid (Hybrid Constant Bit Rate) encoding. If 'Quality' is selected, the video encoding will be affected by the quality of the image selected. Therefore, the "Quality" mode corresponds to VBR (Variable Bit Rate) encoding.
- Quality: Select Video quality from the seven (7) levels available. Quality mode (VBR encoding) tries to encode every frame in a constant quality. The resulting bitrate may vary depending on the complexity or activity changes in the input video. It is preferred when constant video quality is required and network bandwidth is enough to deliver a highly varying bitrate stream.
- Bitrate: Determine bitrate value between 32 ~ 16Mbps. Bitrate mode (CBR encoding) allows you to set a fixed target bitrate that consumes a predictable bandwidth. In this case, video quality is controlled dynamically to keep the bitrate fixed.
- I-Frame Interval: Determine I-frame Interval between 1 and 255.
- ROI Encoding: Select ON to enable the use of ROI. Users can make an area for ROI on the Secondary stream.

### 5.2.3 Audio

			Live
Video&Audio	-	Audio	
<ul> <li>Information</li> </ul>		Algorithm G.711 v	
- Video		Bitrate 64kbps v	
Audio		Mode Tx & Rx v	Apply
Output			
🔓 Image	+	Input Gain	
Network	+	Input Gain	25
Event	+		
Device	+		
AI	+		
S PTZ	+		
🐮 User	+		
System	+		

#### <u>Audio</u>

- Algorithm: Select the audio algorithm: G.711 or AAC. G.711 and AAC from client to server direction are supported. Thus, bidirectional audio communication is supported.
- Bit rate: Select between 64Kbps and 128Kbps when AAC is selected. The sampling rate is fixed to 8KHz and 32KHz for G.711 and AAC, respectively. Note that when the camera is connected to a decoder, the decoder's audio algorithm should be set identically to transmit Audio properly.
- Mode: Select audio operation mode.

Mode	Action
Off	No operation
Tx-Only	Transmit only
Rx-Only	Receive only
Tx & Rx	Transmit and receive

#### Input Gain

Set audio input gain from 0 to 31.

#### 5.2.4 Output

Video&Audio	-	Audio	
Information		Audio Output 🔘 Decoded Audio 🔿 Loopback	Apply
- Video		* L33	
- Audio			
- Output			
📑 Image	+		
Vetwork	+		
Event	+		
🔜 Device	+		
👰 AI	+		
📩 PTZ	+		
& User	+		
System	+		

- Output Format: Select the format of output when Enable Preview is selected.
- Audio Output:
  - $\circ$   $\quad$  Decoded Audio: The input audio is transmitted to the encoder.
  - Loopback: Does not transmit the Audio to the encoder.

# 5.3Image

### 5.3.1 General

Users can adjust the camera's image settings. Users can create multiple configuration settings (up to four) based on the camera's varying needs.

Video&Audio	+ Viev	1		
Image	-			
General			A STATE STATE OF THE STATE	et an
Schedule				are and the
<ul> <li>Mask</li> </ul>			- 1 - A Pre-	Participation and and
IR Control			All and a second	
Network	+		and the man and and	
Event	+	Contract of		100
Device	+	- Charles -		
AI	+			
PTZ	+	/ /	/	
User	+			
Fundam			1	
System	•			
System		fig Set #1 Config Set #2	2 Config Set #3 Config Set #4	
system	Cor	fig Set #1 Config Set #2	2 Config Set #3 Config Set #4	
System	Cor			20
System	Cor	Exposure	get	20
system	Cor	Exposure Exposure Tar	get	20
system	Cor	Exposure Exposure Tarr Exposure Mo	get de [Advanced orde [Auto	20
system	Cor	Exposure Exposure Tan Exposure Mo Slow Shutter Mo	get de (Advanced vde (Auto gge	
System	Cor	Exposure Exposure Tan Exposure Mo Slow Shutter Mo Shutter Ran	get de Advanced de Auto orge ter Off	
system	Cor	Exposure Exposure Tan Exposure Mo Slow Shutter Mo Shutter Ran User Shut	get de Advanced • de Auto • ge ter Off • ain	1/ 125 ~1/ 100000
system	Cor	Exposure Exposure Tan Exposure Mo Slow Shutter Mo Shutter Ran User Shut Analog Max G Spe IRIS Mo	get	1/ 125 ~1/ 100000 30
system	Cor	Exposure Exposure Tan Exposure Mo Slow Shutter Mo Shutter Ran User Shut Analog Max G Spe IRIS Mo BLC/WDR Mo	get	1/ 125 ~1/ 100000 30

#### Exposure

Users can adjust the camera's exposure, Shutter, Gain, Iris, and address harsh lighting.

Exposure		
Exposure Target		20
Exposure Mode	Advanced v	
Slow Shutter Mode	Auto 💌	
Shutter Range	[][]	1/ 125 ~1/ 100000
User Shutter	Off v	
Analog Max Gain		30
Speed		4
IRIS Mode	Auto 💌	
BLC/WDR Mode	Off •	
Gamma Index	Auto(Fine)	
AE Weight Mode	Auto 💌	

- Exposure Target: Adjust the brightness of the camera's image between 0-100. The higher the value, the brighter the image becomes.
- Exposure Mode:
  - o Advanced: Slow Shutter, Shutter speed, Gain and Iris ranges can be set manually.
  - Full Auto: Auto Iris and Gain, Fixed Shutter Speed (59.94/1/60 sec)
- Slow Shutter Mode: In low-light environments, enable the camera's slow shutter feature to use a slower shutter speed to capture more light.
- Shutter Range: If exposure mode is set to "Advance," adjust the Shutter's range bar. The moving object can be photographed without the ghost effect if this speed is faster. However, the picture can be dark if the lighting is insufficient.
- User Shutter: Select a shutter speed from the options in the drop-down menu.
- Analog Max Gain: Adjusts image gain. The lower the value, the darker the image will appear.
- Speed: Adjust the speed of shutter.
- IRIS Mode:
  - Auto: Based on Zoom magnification, operates as IRIS AUTO. IRIS closes when zoom in.
  - Manual: FIX IRIS based on F-Stop number.
- BLC/WDR Mode:
  - Back Light Compensation: The camera can balance the lighting in a scene with an extremely bright background, such as sunlight. It helps to obtain the finest light contrast and get a clear image.
  - WDR: The Wide Dynamic Range mode is a function for dividing an image into several blocks and correcting blocked-up shadows and blown-out highlights following the intensity difference. It

enables you to obtain images in which portions ranging from dark to light can be recognized, even when capturing a subject with a large intensity difference that is backlighted or includes extremely light portions.

- Gamma Index: Gamma correction can be changed in this mode.
- AE Weight Mode:
  - o Auto: Allow camera to automatically determine lens exposure settings.
  - Manual: Set fixed exposure settings.

#### Color & Filter

Users can adjust the camera's lighting, fix digital noise and other image quality settings under this section.

Color & Filter		
AWB Mode	Auto Tracing White 💌	
Brightness		135
Contrast		64
Saturation		74
Noise Filter	On v	
3D Level		5
Edge Filter	On v	
Edge Level		6
Defog	Off v	
Foggy Filter	Off	
Lens Distortion Correction	Off v	

- AWB Mode: White Balance has the following modes.
  - Auto: This mode computes the white balance value output using color information from the entire screen. It outputs the proper value using the color temperature radiating from a black subject based on a range of values from 3000 to 7500K.
  - Manual: Manual control of R and B gain, 256 steps each.
  - ATW (Auto Tracking WB): Auto Tracking White balance (2000K to 10000K)
- Brightness: Controls input video brightness by selecting values between 0 and 255.
- Contrast: Controls input video contrast by selecting values between 0 and 255.
- Saturation: Controls input video saturation by selecting values between 0 and 255.
- Noise Filter: Normal 3D : start to work 3D NR (refer to 1frames on 3D NR)

- 3D Level: The higher the level is, the less noise in the video. However, it can cause image distortion. It should be configured by users, depending on scene requirements.
- Edge Filter: Users are allowed to configure to have sharp and clear edge in the video.
- Edge Level: Default is 5. Lower than default, edge appears less sharp. Higher than 5, edge appears sharper but with low exposure, noise will appear.
- Defog: Images in extraordinary environments such as fog, rain, or a very strong luminous intensity have a lower dynamic range than ordinary images. This camera has a contrast-based defog function, which is used to overcome such shortcomings.
- Foggy Filter: Status of Defog mode. Options include OFF, always ON, or Night only.
- Lens Distortion Correction: If there is any distortion in the camera's field of view, enable this setting to try to correct it.

#### Day & Night

The camera delivers color images during the day. Light diminishes below a set level, so the camera can automatically switch to night mode (Black and white mode) to maintain good image quality.

Day & Night	
Day & Night Mode	Auto 💌
CDS Day -> Night Threshold	240
CDS Night -> Day Threshold	220
TDN Duration	5
IR Cut Filter	Auto 💌
Current CDS value	50 (0:bright ~ 255:dark)

- Day & Night Mode:
  - Auto: Automatically switches to Day (Color) or Night(B&W) according to light using ICR (Infrared Cut Filter Removable)
  - Day (Color): Deliver color image regardless of light.
  - Night (B/W): Deliver B/W image regardless of light
- CDS Day > Night Threshold: Set the CDS value when the light goes below that level for the camera to switch from color day mode to B/W night mode.
- CDS Night > Day Threshold: Set the CDS value when the light goes above that level for the camera to switch from B/W night mode to color day mode.

- TDN Duration: Determines True Day/Night duration timer; determines the amount of time that the camera will wait before switching between Day/Night modes.
- IR Cut Filter: Control the camera's IR cut filter and its impact on the camera's transition between color and B/W image.
- Current CSD Value: This shows the current CSD value for the camera's view. The higher the number, the brighter the image.

### <u>ETC</u>

This menu allows users to adjust settings, such as flipping the camera's image or enabling digital zoom.

Horizontal Flip Off  Vertical Flip Off  Minimum Focus Length 10m Digital Zoom Off	ETC		
Minimum Focus Length	Horizontal Flip	Off 🔹	
	Vertical Flip	Off	
Digital Zoom Off	Minimum Focus Length	10m 💌	
	Digital Zoom	Off 🔹	

- Horizontal Flip: When enabled, the camera's view will be flipped from left to right.
- Vertical Flip: when enabled, the camera's view will be flipped up to down.
- Minimum Focus Length: Can be set from 10cm to 10m.
- Digital Zoom: Determine to use Digital zoom (16x) supported by the camera zoom lens.

## 5.3.2 Schedule

Video&Audio	+	Schedule T	able																				
Image	-		Select	• Co	onfig S	iet #1		C	onfig	Set	#2		Con	nfig S	Set #	3		Conf	fig S	Set #4	4		
General				0	1 2	3 4	5	6 7	8	9 1	0 11	12	13 14	4 15	16	17 1	8 19	20	21	22 2	3		
Schedule			SUN																				
<ul> <li>Mask</li> </ul>			MOM	1																			
IR Control			TUE																				
Network	+		WE																				
Event	+		FRI																				
Device	+		SAT				$\square$		$\square$			$\square$			$\square$		$\pm$						
AI	+					Use	confi	g set	#4 w	hen	day8	nigh	t mo	de is	s aut	to an	nd st	atus	is B	W.			
PTZ	+				٥r١	when	day	Snigh	t mo	de is	s day	and	darl	ker ti	han	d&n	thre	shold	I.				
User	+																				_		
System	+																					Apply	

Users can set different schedules for different camera configurations.

- Configuration Set: 4 different configuration sets can be configured by opening the page with Config Set#N. buttons. For example, Config Set#1 can be configured for day and Config Set#2 for night mode.
- Scheduling of the configurations: Cells in the weekly/hourly schedule table can be set to appropriate configurations by clicking a specific cell or a cell for an hour or a cell for a day of a week.

#### 5.3.3 Mask

Video&Audio	+	Mask				
🛉 Image	-					A CARLON AND AND AND AND AND AND AND AND AND AN
General		1			B-1-1 the a	Server 18
Schedule						Contraction of the second
Mask					- AND AND -	Chicking
IR Control				and the first	AND REAL PORT	-
Network	+	Zoom In Zoom Out 1x		a data in the second		
Event	+	Focus Near Focus Far Auto Fo	Focus	C. Martin		** 5
Device	+					-
AI	+					
🛓 PTZ	+					
🛃 User	+					
System	+		Select Mask Number	Mask-1	8	v
		Add	Apply	Search	Display On/Off	Display Off All

Masks can be displayed in the video.

- 1. Position the camera and select one of the Masks from the drop-down menu.
- 2. Press the 'New' button to get a mask and adjust its size with the size buttons.
- 3. The 'Search' button can show the specified mark.

## 5.3.4IR Control

Video&Audio	+	IR Led Control							
🙀 Image	-		IR Mode Auto-	-Normal	v				
General									
Schedule								Default	Apply
• Mask									
IR Control									
Network	+								
Event	+								
Device	+								
💱 AI	+								
🛃 PTZ	+								
& User	+								
System	+								

Users can control the Near LED and Far LED manually.

# 5.4 Network

### 5.4.1 IP & Port

W			Live
😼 Video&Audio	+	Local	
📑 Image	+	IP Mode	DHCP
Network	-		
IP&Port		DNS	
RTSP Multicast			O Obtain DNS server address automatically
. QoS			Use the following DNS server addresses
<ul> <li>Discovery</li> </ul>		Primary DNS Server	8.8.8.8
One-way		Secondary DNS Server	8.8.8.8
SNMP			
- DDNS		IPv6	
IP filtering		IPv6 Address	
E-mail		IPv6 Subnet Prefix Length	0
• FTP		IPv6 Default Gateway	
Connecting		IPv6 LinkLocal	fe80::21c:63ff.fed4:59d0/64
Event	+		
Device	+	Port	
👰 AI	+	Base Port	2222 (1025~65535)
📥 PTZ	+	HTTP Port	80 (80, 1025~65535)
🎎 User	+	HTTPS Port	(443, 1025~65535)
🔁 System	+	RTSP Port	554 (554, 1025~65535)
		Audio Receive Port	2280 (1025~65535)
		MTU Size	
		MTU Size	[1500](default:1500, 68~)
		Multicast	
		Multicast IP	(224.10.0.0 (224.0.0.0 ~ 239.255.255.255)
		TTL	64 (1~255)
			Apply

#### Local

• Select the IP mode: Fixed IP or DHCP. Depending on the selected mode, further configuration items come as follows:

IP Mode	Selection	Description
	Local IP	Fixed IP address
Fixed IP	Local Gateway	Gateway IP address
	Local Subnet	Subnet mask
DHCP	N/A	

Contact your network administrator or Internet Service Provider (ISP) for more information.

#### <u>DNS</u>

- Obtain DNS server address automatically: Get DNS server address automatically when IP mode is DHCP.
- Use the following DNS server address: Enter the DNS server IP address, Primary or Secondary DNS server.

#### IPv6

- Ipv6 Address: Enter the designated Ipv6 address.
- Ipv6 Subnet Prefix Length: Enter the bit number of Ipv6 Subnet
- Ipv6 Default Gateway: Enter the designated Ipv6 gateway.
- Ipv6 Link Local: Display Ipv6 Link Local.

#### <u>Port</u>

- Base Port (1025-65535): Enter the Base Port number. The network base port is used for communication with remote clients. The port number must be identically configured on the camera and client sides to connect the camera and remote systems.
- HTTP Port (80, 1025~65535): Enter the HTTP port used for the web-based connection.
- HTTPS Port (443, 1025~65535): Enter the HTTPS port for the secured HTTP connection.
- RTSP Port (554, 1025~65535): Enter RTSP port used for RTSP-based connection. The default TRSP port is 554. RTSP (Real Time Streaming Protocol) is a standard for media streaming between server and client.

### 5.4.2 Multicast

The Multicast menu configures the multicast IP address to which the media stream is delivered when a client such as a Decoder, VMS or NVR software is connected in multicast mode. The multicast IP address selection range is between 224.0.0.0 and 239.255.255.255. The selection can be used when the media protocol is set to Multicast.

😼 Video&Audio	+	RTSP Multicast				
📑 Image	+		Multicast IP	Port		
Vetwork	-	Primary	224.10.0.0	64704		
<ul> <li>IP&amp;Port</li> </ul>		Secondary #1		64706		
		Secondary #2		64722		
RTSP Multicast		Secondary #3		64724		
- QoS		Audio	224.10.0.0	64802		
<ul> <li>Discovery</li> </ul>		Metadata	224.10.0.0	64902	ļ	
• One-way					Appl	,
- SNMP						
- DDNS						
IP filtering						
E-mail						
• FTP						
Connecting						
Event	+					
🛄 Device	+					
🙀 AI	+					
📥 PTZ	+					
& User	+					

### 5.4.3QoS

N/		
😼 Video&Audio	+	QoS
📫 Image	+	QoS Enable Off  Apply
Vetwork	-	
IP&Port		
RTSP Multicast		
- QoS		
Discovery		
One-way		
• SNMP		
. DDNS		
IP filtering		
- E-mail		
• FTP		
Connecting		
Event	+	
Device	+	
🐺 AI	+	
📥 PTZ	+	
🎎 User	+	
System	+	

Quality of Service (QoS) by managing the delay, delay variation (jitter), bandwidth, and packet

Loss parameters on a network become the secret to a successful end-to-end business solution.

### 5.4.4Discovery

😽 Video&Audio	+	Discovery		
😰 Image	+	UPnP	○ Off ● On	
Network	-	Zeroconf	◯ Off ● On	
IP&Port		WS Discovery	○ Off 🖲 On	Apply
RTSP Multicast				
. QoS				
Discovery				
• One-way				
- SNMP				
. DDNS				
IP filtering				
• E-mail				
• FTP				
Connecting				
Event	+			
🚍 Device	+			
💱 AI	+			
📩 PTZ	+			
🎎 User	+			

- UPNP: Setting UPNP to ON allows the discovery by the clients according to the UPNP (Universal Plug and Play) protocol.
- Zeroconf: Setting Zeroconf to ON allows the camera to be discovered by clients using the Zeroconf protocol.
- WS Discovery: Discovery function based on web service is enabled. It allows the discovery by the client SW, which is supporting Onvif.

#### 5.4.5One-way

This IP camera provides two kinds of one-way (unidirectional) streaming based on UTP to clients: RTMP and MPEG-TS. Both are a kind of broadcasting where traffic from clients to a server is not generated.

W			Live
😼 Video&Audio	+	One-way Streaming	
🔹 Image	+	Mode Off	
Vetwork	1.		
IP&Port			Apply
RTSP Multicast			
. QoS			
Discovery			
One-way			
- SNMP			
- DDNS			
IP filtering			
E-mail			
• FTP			
Connecting			
Event	+		
🚍 Device	+		
🐺 AI	+		
📥 PTZ	+		
🎎 User	+		
🍓 System	+		

- RTMP is an Internet protocol for transmitting real-time multimedia data, such as Audio and video, to a
  select group of connected clients. Normally, RTSP uses RTP to format packets of multimedia content.
  The RTP menu is used when the RTP only streaming without an RTSP connection. RTP stream will be
  transmitted to the destination set. The SDP (Session Description Protocol) file can be found on the
  server, and a client can retrieve it using an HTTP connection.
  - Related settings:
    - Destination IP: Set the IP Address of the destination system that will receive RTP Stream. If the system is a decoder, RTSP authentication information can be in the middle of the RTSP URL as follows: rtsp://admin:admin @192.168.10.100:554/video1
    - Destination Port: Set the port of the destination system that will receive the TRP stream.
    - User Name: Enter the user name used as the session name in the SDP file.
    - File Name: Enter the file name that will be used as the name of the SDP file. Then, it can be accessed through http://ServerAddress/filename.
- MPEG-TS is a standard format for transmitting and storing Audio, video, and data [7] and is used in broadcast systems such as DVB and ATSC. Transport Stream is specified in MPEG-2 Part 1, Systems (formally known as ISO/IEC standard 13818-1 or ITU-T Rec. H.222.0). Transport stream specifies a container format encapsulating packetized elementary streams, with error correction and stream synchronization features for maintaining transmission integrity when the signal is degraded. As MPEG-TS supports only AAC as the audio algorithm, only video is streamed when the audio algorithm is set to G.711.

- Related settings are as follows:
  - Destination IP: Set the IP Address of the destination system that will receive the MPEG-TS stream.
  - Destination Port: Set the Port of the Destination system, which will receive MPEG-TS stream.

### 5.4.6SNMP

DW					Live
Video&Audio +	SNMP				
📑 Image 🕂	SNMP Listen Port	0	(0, 161, 1025~65535)		
😟 Network -	SNMP Trap Destination IP	0.0.0.0	]		
IP&Port	SNMP Trap Destination Port	162	(0, 162, 1025~65535)		
RTSP Multicast	SNMP Version	2c *	]		
• Qo S	Read Community	public	)		
Discovery	Write Community	private	]		
One-way					
SNMP				Appl	у
- DDNS					
IP filtering					
E-mail					
• FTP					
Connecting					
Event +					
Device +					
💱 AI 🛛 🕂					
📥 PTZ 🛛 🕂					
🍇 User 🛛 🕂					
🍖 System 🔸					

This menu allows users to configure the SNMP (Simple Network Management Protocol) for the camera. The camera is compatible with SNMPv1 and SNMPvec.

- SNMP Listen Port (0, 161, 1025 ~ 65535).
- The port connects external devices when the system operates as an SNMP client. SNMP is not used by setting a O value.
- SNMP Trap Destination IP.
- Set the SNMP Trap Destination IP.
- SNMP Trap Destination Port (0, 162, 1025 ~ 65535).
- Set the SNMP Trap Destination Port. SNMP is not used by setting a 0 value.

## 5.4.7 DDNS

			Live
5 Video&Audio	+	DDNS	
📑 Image	+	DDNS Server None 💌	
Vetwork	-	Check IP Disable	Apply
IP&Port			
RTSP Multicas	t		
• QoS			
Discovery			
• One-way			
- SNMP			
- DDNS			
IP filtering			
• E-mail			
• FTP			
Connecting			
Event	+		
Device	+		
💱 AI	+		
å PTZ	+		
🍇 User	+		
🌦 System	+		

Select the DDNS (Dynamic DNS) server to use. One of the two can be selected.

- DynDNS: Dyn DNS service is used in this mode. Refer to <u>www.dyndns.org</u> for details. ID, Password and Domain name are needed when DYN DNS is set.
- Check IP Disable: If "Check IP Disable" is selected, it will skip to check its IP. The set IP will be registered on the DDNS server in fixed IP mode. In DHCP mode, dynamically assigned IP will be registered on the DDNS server. Normally, '**Check IP Disable'** should be unchecked to obtain public IP in the network.

## 5.4.8IP filtering

-	Allow all   Access from IPs in the for From	ollowing list will not be al To	lowed.	
No.	From	-	lowed.	
		То		
			Enable	
	0.0.0.0	0.0.0.0		
2	0.0.0.0	0.0.0.0		
3	0.0.0.0	0.0.0	T 0	
4	0.0.0.0	0.0.0		
5	0.0.0.0	0.0.0		
6	0.0.0.0	0.0.0		
7	0.0.0.0	0.0.0		
8	0.0.0.0	0.0.0		
9	0.0.0.0	0.0.0		
10	0.0.0.0	0.0.0		
11	0.0.0.0			
	0.0.0.0	0.0.0		
16	0.0.0.0	0.0.0		
17	0.0.0.0	0.0.0		
18	0.0.0.0	0.0.0		
19	0.0.0.0	0.0.0		
	5 6 7 8 9 10 11 12 13 14 15 16 17 18	4         0.0.0           5         0.0.0           6         0.0.0           7         0.0.0           8         0.0.0           9         0.0.0           10         0.0.0           11         0.0.0           12         0.0.0           13         0.0.0           14         0.0.0           15         0.0.0           16         0.0.0           17         0.0.0           18         0.0.0	0.0.0         0.0.0           4         0.0.0         0.0.0           5         0.0.0         0.0.0           6         0.0.0         0.0.0           7         0.0.0         0.0.0           8         0.0.0         0.0.0           9         0.0.0         0.0.0           9         0.0.0         0.0.0           10         0.0.0         0.0.0           11         0.0.0         0.0.0           12         0.0.0         0.0.0           13         0.0.0         0.0.0           14         0.0.0         0.0.0           15         0.0.0         0.0.0           16         0.0.0         0.0.0           17         0.0.0         0.0.0           18         0.0.0         0.0.0	4       0.0.0       0.0.0       0         5       0.0.0       0.0.0       0         6       0.0.0       0.0.0       0         7       0.0.0       0.0.0       0         8       0.0.0       0.0.0       0         9       0.0.0       0.0.0       0         10       0.0.0       0.0.0       0         11       0.0.0       0.0.0       0         12       0.0.0       0.0.0       0         13       0.0.0       0.0.0       0         14       0.0.0       0.0.0       0         15       0.0.0       0.0.0       0         16       0.0.0       0.0.0       0         17       0.0.0       0.0.0       0         18       0.0.0       0.0.0       0

IP filtering is simply a mechanism that decides which types of IP datagrams will be processed normally and which will be discarded.

# 5.4.9Email

			Live
😼 Video&Audio	+	E-mail	
📑 Image	+	Server Address	
Network	-	Port	25 (25, 465, 587, 1025~65535)
IP&Port		Sender Address	
RTSP Multicast		Authentication on SMTP Server	● Off ○ On
• QoS		ID	
<ul> <li>Discovery</li> </ul>		Password	
• One-way		SSL	● Disable ○ Enable
- SNMP		Destination Address	E-mail Test
- DDNS			
IP filtering		E-mail Notification	
<ul> <li>E-mail</li> </ul>		Video Clip Attaching	Disable •
• FTP		Number of Frame	1 (1 ~ 6)
Connecting		Capture Interval	Continuous
Event	+		
Device	+		Apply
😴 AI	+		
📥 PTZ	+		
🍇 User	+		
🍖 System	+		

#### <u>Email</u>

When email is selected as an event action, specify the information to send event information.

- Server Address: Enter the address of the mail (SMTP) server
- Port: Specify a port for SMTP operation. (Port 25 is the default port in SMTP operation. If a different port is configured in the SMTP server, this port needs to be changed accordingly.)
- Sender Address: Enter an account registered in the SMTP server.
- Authentication on SMTP server: This function is applicable when the Email server requires authentication for sending email.
- ID and Password: When the server requires authentication, the ID and Password of an Email account need to be entered.
- Destination Address: Enter Destination address. Multiple addresses can be entered by delimiting comma (,) or semi-colon (;). The destination address can take up to 63 characters.
- Email Test: email sending can be tested with this button. Please note that configured settings should be saved by pressing the Apply button before using the email Test function. One of the following messages will come as a result of the test.

Message	Description
Email sent successfully	The test email has been sent successfully. Reception in the client can be checked.
Failed to connect to SMTP server	Connection to the SMTP server failed. It is necessary to check if the server is reachable and the server address and port are correct.
Authentication failed	The server is reachable, but authentication failed. ID and/or password need to be checked.
SMTP server rejected the mail	The server is reachable, but mail sending failed for reasons other than authentication. This error often happens when the server authenticates according to its own rules. For example, IP addresses of a specific range or addresses of a specific suffix are allowed.

#### Email Notification

• Video Clip Attaching: A video clip stored at the moment of the event can be attached as an AVI or JPEG file format. When dual or quadruple encoding is enabled, Primary video, Secondary video (H.264

only) or JPEG Capture can be selected. The number of JPEG frames is configured. This setting is applicable only when JPEG Capture is selected.

• Capture Interval: Select the interval of the captured frame.

# 5.4.10FTP

Nideo&Audio	FTP			
📑 Image	+ Server	Address		
👯 Network	•	Port 21	(21, 1025~65535)	
IP&Port		ID		
RTSP Multicast	P	assword		
• QoS	FTP F	ilename		
Discovery	FTP Base I	Directory		FTP
One-way				
SNMP	FTP Upload			
- DDNS	Uplo	ad Video Primary Video	▼]	
IP filtering	Number (	of Frame 1	Send 1 frame per second. (1 ~ 6)	
E-mail	Continuous	s Upload Off	•	
• FTP	Upload	Duration 10	sec (Max 300)	
Connecting	Upload	Interval 300	sec (Max 10800)	
Event	•			
Device	•			Арр
💱 AI	•			
📥 PTZ	•			
🍇 User	+			
🗞 System				

Specify the information to upload event information when FTP is selected as an event action.

## <u>FTP</u>

- Server Address: Enter the address of an RTP server to receive video files
- Port: Specify a port for FTP operation. (port 21 is the default port in FTP operation. If a different port is configured in the FTP server, this port needs to be changed accordingly.)
- ID & Password: Enter ID and password for accessing the FTP server.
- FTP file name: The names of files uploaded by FTP can be specified by the user. If a fixed name is specified, the file is overwritten repeatedly. The length of a file name is 60 characters. If the name is left blank, the file name is determined according to the internal rule implemented in the firmware. The following macros are supported to form variable parts of file names. The strings are case-sensitive.
  - %YYYY: year %MM: month %DD: day %hh: hour %mm: minute %ss: second %EVENT: event type (Sensor1, Motion, ...)

%ADDR: address of the server (Domain name when DDNS is used. Otherwise IP address) ".avi" or ".jpg" will be added automatically at the end of the filename, depending on the video file type.

- FTP Base Directory: Specify the directory's name to be created in the FTP server. It is valid only when Use Record is set to Use on Record session.
- FTP Test: The FTP upload function can be tested with this button. Please note that configuration settings should be saved by pressing the Apply button before using the FTP test function. One of the following messages will appear as a result of the test.

Message⊷	Description 🖓
FTP connection tested successfully	The connection to the FTP server is successful.
Failed to connect FTP server <sup>43</sup>	The connection to the FTP server failed. It is necessary to check if the server is reachable and server address and port are correct.
Authentication failed₽	The server is reachable but authentication failed. ID and/or password need to be checked
Failed to upload file↔	File upload failed. The user of the ID is not allowed for writing into the directory or FTP server can be full.
Failed to erase file₽	Failed to delete the test file. The user of the ID doesn't have the privilege for file deletion.42

## FTP Upload

- Upload Video: Primary and secondary, tertiary or quartic video (H.264 only), JPEG capture can be selected for uploading.
- Number of Frame: Enter the frame number of the JPEG captured. (1 ~ 10)
- Capture Interval: Select the interval of the captured frame.
- Continuous Upload: Continuous upload 'ON' allows video clips to be transmitted regularly regardless of the event's occurrence. When this mode is activated, FTP upload by event is suppressed.
- Upload Duration: Specify the recording duration of a video clip to be transmitted. (max 300 sec.)
- Upload Interval: Specify transmission interval. (max 3600 sec.). Upload duration is not included in the upload interval. For example, if the upload interval is 60 seconds and the upload duration is 20 seconds, a video clip for 20 seconds is transmitted every 80 seconds.

# 5.4.11 Connecting

The window shows the IP address of all clients currently connected to the camera.

DW .			Live
Nideo&Audio	+	Connecting	
📑 Image	+	Refresh	
Network	-	rtsp :: 192.168.15.25:63480 - /video1+audio1	
IP&Port		rtsp :: 192.168.15.25:63479 - /video1s+audio1	
RTSP Multicast			
- QoS			
<ul> <li>Discovery</li> </ul>			
• One-way			
SNMP			
• DDNS			
IP filtering			
E-mail			
• FTP			
Connecting			
Event	+		
Device	+		
NA 💱	+		
📥 PTZ	+		
🎎 User	+		
🌦 System	+		

# 5.5Event

# 5.5.1 Notification

😼 Video&Audio 🛛 +	Local											
👷 Image 🛛 +	Sensor 1	Alarm1	Alarm2	E-mail	FTP	Preset	No Preset	Ŧ	Event OSD Off	-	Http Action Off v	1
Vetwork +	Sensor 2	Alarm1	Alarm2	E-mail	FTP	Preset	No Preset	v	Event OSD Off	7	Http Action Off 🛛 🔻	Í
🖬 Event –	Sensor 3	Alarm1	Alarm2	E-mail	FTP	Preset	No Preset	v	Event OSD Off	-	Http Action Off 🛛 👻	]
- Notification	Sensor 4	Alarm1	Alarm2	E-mail	FTP	Preset	No Preset	Ŧ	Event OSD Off	•	Http Action Off v	]
User Defined Event	On Video Loss	Alarm1	Alarm2	E-mail	FTP	Preset	No Preset	٣	Event OSD Off	•	Http Action Off 🛛 🔻	)
Motion Detection	On Disconnect	Alarm1	Alarm2	E-mail	FTP	Preset	No Preset	٧	Event OSD Off	v	Http Action Off 🛛 👻	]
Audio Detection	On Motion	Alarm1	Alarm2	E-mail	FTP	Preset	No Preset	٣	Event OSD 4	•	Http Action Off v	]
Shock Detection	Audio Detection	Alarm1	Alarm2	E-mail	FTP	Preset	No Preset	٣	Event OSD Off	•	Http Action Off v	]
Sensor	Shock Detection	Alarm1	Alarm2	E-mail	FTP	Preset	No Preset	٧	Event OSD Off	v	Http Action Off 🛛 👻	]
Alarm												
Event OSD	AI Event											
HTTP Action	Event 1	Alarm1	Alarm2	E-mail	FTP	Preset	No Preset	٣	Event OSD 1	•	Http Action Off v	]
E Device +	Event 2	Alarm1	Alarm2	E-mail	FTP	Preset	No Preset	٣	Event OSD 2	•	Http Action Off v	]
😵 AI 🛛 🛨	Event 3	Alarm1	Alarm2	E-mail	FTP	Preset	No Preset	v	Event OSD 3	•	Http Action Off 🛛 👻	]
📥 PTZ 🛛 🔸	Event 4	Alarm1	Alarm2	E-mail	FTP	Preset	No Preset	٣	Event OSD 2	•	Http Action Off 🛛 🔻	]
& User +	Event 5	Alarm1	Alarm2	E-mail	FTP	Preset	No Preset	٣	Event OSD 2	•	Http Action Off 🛛 👻	]
😓 System 🔸	Event 6	Alarm1	Alarm2	E-mail	FTP	Preset	No Preset	v	Event OSD 1	•	Http Action Off 🛛 👻	]
	Event 7	Alarm1	Alarm2	E-mail	FTP	Preset	No Preset	Ŧ	Event OSD Off	•	Http Action Off 🛛 👻	]
	Event 8	Alarm1	Alarm2	E-mail	FTP	Preset	No Preset	٣	Event OSD Off	•	Http Action Off *	]
	User Defined Event											
	User Defined 1	Alarm1	Alarm2	E-mail	FTP	Preset	No Preset	v	Event OSD Off	v	Http Action Off v	]
	User Defined 2	Alarm1	Alarm2	E-mail	FTP	Preset	No Preset	٣	Event OSD Off	•	Http Action Off 🛛 👻	]
	User Defined 3	Alarm1	Alarm2	E-mail	FTP	Preset	No Preset	٣	Event OSD Off		Http Action Off 🛛 👻	]
	User Defined 4	Alarm1	Alarm2	E-mail	FTP	Preset	No Preset	Ŧ	Event OSD Off	-	Http Action Off 🛛 👻	]

Then, actions for events can be configured for events from the remote system and local system. For example, it is possible to turn on an alarm device in a local (center) decoder system when a sensor device in a remote (site) IP camera is triggered. **The local** section configures the actions for events from the local (self) system. Configuration activates local devices, and the **Remote** sections configure the actions for events from the remote (peer) system. The following table lists the possible actions for events.

Action	Description
Веер	Triggers beep port.
Alarm out	Triggers alarm (relay) port.
Email	Send an email to a specified address. An AVI file can be attached.
FTP	Upload an AVI file to a specified FTP server.
Google Drive	Upload to Google Drive storage.
Preset	Move to the Preset position.
Event OSD	Display OSD.
ΗΤΤΡ ΑΡΙ	Transmit HTTP API.

## <u>Local</u>

- Sensor1-4: Configure the actions when the Sensor is activated. Multiple actions can be set for a single event.
- On Video Loss: Configure the actions when the video input signal is lost. Multiple actions can be set for a single event.
- On Disconnect: Configure the actions when the link (connection) with the peer system is disconnected. Multiple actions can be set for a single event. This event happens when the last client, receiving video from the camera, loses the connection.
- On Motion: Configure the actions when motion is detected. Multiple actions can be set for a single event.
- Audio Detection: Configure the actions when Audio is detected. Multiple actions can be set for a single event.
- Shock Detection: Configure the actions when the camera detects strong shock vibrations. Multiple actions can be set for a single event.

## <u>Al Event</u>

• Event 1-8: Configure the actions when an event triggered by the AI settings occurs. Multiple actions can be set for a single event.

## User Defined Event

• If specific user events were set up in the "User Defined Event" menu, configure the actions when an event is triggered. Multiple actions can be set for a single event.

# 5.5.2 User Defined Event

Users can define events up to 4 and configure notifications on the Notification page. Choose an event from the available drop-down options. Click 'Apply' to save the changes.

DM			Live
5	Video&Audio +	User Defined Event	
	Image +	User Defined 1 None 💌	
- 22	Network +	User Defined 2 None 💌	
	Event -	User Defined 3 None	
	Notification	User Defined 4 None  Apply	
	User Defined Event		
	Motion Detection		
	Audio Detection		
	Shock Detection		
	Sensor		
	Alarm		
	Event OSD		
	HTTP Action		
	Device +		
<b>@</b>	AI +		
<u>_</u>	PTZ +		
88	User +		
	System +		

# 5.5.3 Motion Detection

😽 Video&Audio	+	Motion Detection														
						_			-							
📫 Image	+	Use Moti	on Detect	ion	Off	• R	egion-l	based								
Network	+	China a man	1			- Marin	1	t al	-	-		S	ensitivit	ty(0 for r	most sens	itive)
Event	-	0.00		-		-					210	o Re	gion 1			5
<ul> <li>Notification</li> </ul>				-			1	10-82 	- salaran		-	Re	gion 2			5
User Defined Eve	ent		1 Alexandre		S. M. WI	o to black	Pad-	-	1			Re	gion 3			10
<ul> <li>Motion Detection</li> </ul>				~	<						4	Re	gion 4			5
Audio Detection		State of			-						-	Re	gion 5			5
Shock Detection										0		Re	gion 6			5
<ul> <li>Sensor</li> </ul>								-	TED.			Re	gion 7			5
Alarm						¢.				-		Re	gion 8			5
Event OSD						Y		X	5							
														100	- 2	
HTTP Action			E	dit	o Off	S	et	Era	se						A	pply
HTTP Action     Device	+		E	dit	o Off	S	et	Era	ISE						A	pply
📟 Device	+	Motion Schedule	E	dit	• Off	S	et	Era	Se						A	pply
🛄 Device		Motion Schedule	E			S on Disa			otion E	Enable					Α	pply
	+	Motion Schedule								Enable					A	pply
🔜 Device 😻 Al 📩 PTZ	++	Motion Schedule	Sel	ect	• Moti	on Disa	ble	M	lotion E		15 16	17 10	10/20/2	1 22 22		pply
💭 Device 😻 AI 🚵 PTZ & User	+ + + +	Motion Schedule	Sel		• Moti		ble	M	lotion E		15 16 -	17 18	19 20 2	1 22 23		pply
💭 Device 😻 AI 🚵 PTZ & User	+ + + +	[	Sel 0	ect	• Moti	on Disa	ble	M	lotion E		15 16 -	17 18	19 20 2	1 22 23		pply
💭 Device 😻 AI 🚵 PTZ & User	+ + + +	-	Sel 0 SUN MON TUE	ect	• Moti	on Disa	ble	M	lotion E		15 16 <sup>-</sup>	17 18	19 20 2	1 22 23		pply
💭 Device 😻 AI 🚵 PTZ & User	+ + + +	-	Sel SUN MON TUE WED	ect	• Moti	on Disa	ble	M	lotion E		15 16	17 18	19 20 2	1 22 23		pply
💭 Device 😻 AI 🚵 PTZ & User	+ + + +	-	Sel SUN MON TUE WED THU	ect	• Moti	on Disa	ble	M	lotion E		15 16	17 18	19 20 2	1 22 23		pply
💭 Device 🂱 AI 🚵 PTZ & User	+ + + +	-	Sel SUN MON TUE WED	ect	• Moti	on Disa	ble	M	lotion E		15 16	17 18	19 20 2	1 22 23		pply

#### Use Motion Detection

Determine to use the **Motion Detection** function.

#### Motion Detection Area Editing

Configure region for motion detection. The following steps can configure regions of arbitrary shape;

- 1. Select Enable on the Edit tab.
- 2. Select editing mode. The set is for including cells in the motion detection region, and Erase is for excluding.
- 3. Select cells by right-clicking. Multiple cells can be selected by pressing and dragging.
- 4. Press Apply Edit Area to save the setting.

## Motion Schedule

Users can assign specific days and times when the motion detection regions are active. Blue time blocks indicate motion detection is active. Gray time blocks indicate motion detection is inactive.

# 5.5.4 Audio Detection

The camera can trigger an event when no audio or Audio is detected. To enable, select from the available options in the drop-down menu. The camera can detect Audio or lack thereof.

		Audio Detection	
Video&Audio	+	Audio Detection	
📑 Image	+	Mode Off 👻	Apply
Network	+		
Event	-		
<ul> <li>Notification</li> </ul>	n		
User Defin	ed Event		
<ul> <li>Motion Det</li> </ul>	ection		
Audio Dete	ection		
Shock Dete	ection		
- Sensor			
. Alarm			
Event OSD			
HTTP Actio	on		
Device	+		
💱 AI	+		
📥 PTZ	+		
& User	+		
👸 System	+		

# 5.5.5 Shock Detection

The camera can trigger an event when extreme vibrations or shocks are detected when enabled. Toggle the button to enable. Click 'Apply' to save the changes.

DW		Live
Video&Audio +	Shock Detection	
📸 Image 🛛 🕂	Use Shock Detection o Off On	Apply
Pretwork +		
🖬 Event -		
Notification		
User Defined Event		
Motion Detection		
Audio Detection		
Shock Detection		
Sensor		
- Alarm		
Event OSD		
HTTP Action		
🚍 Device 🔸		
👰 AI 🛛 🕂		
📥 PTZ 🛛 🕂		
🎎 User 🕂		
🍖 System 🔸		

## 5.5.6 Sensor

leo&Audio +	Sensor Type									
age +		Sensor 1	Off	• N/O	N/C					
twork +		Sensor 2	Off	• N/O	N/C					
ent –		Sensor 3	Off	e N/O	N/C					
Notification		Sensor 4	Off	• N/O	N/C					
User Defined Event										
Motion Detection	Sensor Schedule									
Audio Detection		Select	o Sens	or Off	Sensor (	Dn				
Shock Detection		Sensor 1								
Sensor			234	5 6 7 8	9 10 11	12 13 14	15 16 17	18 19 20	21 22 23	
Alarm	s	UN								
Event OSD		ION								
HTTP Action		UE VED								
vice +		ни								
+	F	RI								
<u>z</u> +	s	AT								
er +		Sensor 2								
stem +			2 3 4	5 6 7 8	9 10 11	12 13 14	15 16 17	18 19 20	21 22 23	
		UE								
		/ED								
		HU RI								
		AT								
		Sensor 3								
			234	5 6 7 8	9 10 11	12 13 14	15 16 17	18 19 20	21 22 23	
	s	UN								
		ION								
		UE VED								
		нυ								
		RI								
	s	AT								
		Sensor 4								
			2 3 4	5 6 7 8	9 10 11	12 13 14	15 16 17	18 19 20	21 22 23	
		UE								
		/ED								
		HU								
		RI SAT								

## Sensor Type

There are two sensor input ports on the video server. Each of the sensor ports can be configured to the following:

- Off: not used
- NO (Normally Open): The port is open and activated when closed.
- NC (Normally Closed): The port is normally closed and activated when opened.

The function of the sensor port is set based on the type of the Sensor connected.

#### Sensor Schedule

Choose **Sensor OFF** or **Sensor On** and click the below schedule table to make a sensor schedule according to the day of the week and hours.

## 5.5.7 Alarm

Set the duration of alarm or beep activation in case of an event. If it is set to **continuous**, it will be active until the operator resets it manually.

DW				Live
Video&Audio	+	Alarm		
📑 Image	+	Alarm1 Duration 1 sec	Ŧ	
Network	+	Alarm2 Duration 1 sec	*	Apply
Event	-			
<ul> <li>Notification</li> </ul>				
User Defined Eve	ent			
Motion Detection	1			
Audio Detection				
Shock Detection				
Sensor				
- Alarm				
Event OSD				
HTTP Action				
🛄 Device	+			
i i i i i i i i i i i i i i i i i i i	+			
📥 PTZ	+			
& User	+			
🍖 System	+			

# 5.5.8 Event OSD

According to the event, Event OSD will be displayed. (User should put in comments for displaying). Before starting this feature, please enable Event OSD on the Notification page.

6	Video&Audio	+	Event OSD								
ŧ	Image	+		No .	Display Event Type	String	X-Coord (0~1000)	Y-Coord (0~1000)	Font Size (12~84)	Color	
2	Network	+		1.		Object detected!	100	0	70	Green	v
	Event	-		2.		Intrusion!	200	50	70	Red	
	. Notification			3.		Line Cross!	300	100	70	Orange	v
				4.		Local Motion, not Al	0	0	30	White	v
Image       Image       Network       Image       Network       Image       Notification       Notification       User Defined Event       Motion Detection       Audio Detection       Shock Detected       Shock Detection       Sensor       Alarm       Event OSD       HTTP Action       Device     +					%L1%, %L2% %L8% will be replace	ced by the n	umber of Li	ne Countin	g.		
	<ul> <li>Motion Detection</li> </ul>	l .									
	Audio Detection		OSD Displa	y Time							
	Shock Detection			OSD	Display Time	5 sec.					
					Displuy fillio	J 360 *					
	Sensor						d Event Or	Disconnos	+ Chock F	otaction	
						e end time is not defined - User Define	d Event , Or	n Disconnec	t , Shock D	Detection	
	- Alarm						d Event , Or	n Disconnec	t , Shock D	Detection	ply
	Alarm     Event OSD						d Event , Or	n Disconnec	ct , Shock D		ply
	Alarm     Event OSD     HTTP Action	+					d Event , Or	n Disconnec	t , Shock E		ply
_	Alarm     Event OSD     HTTP Action	+					d Event , Or	n Disconnec	ct , Shock E		ply
<b>e</b>	Alarm     Event OSD     HTTP Action Device						d Event , Or	n Disconnec	ct , Shock E		ply
<b>*</b>	Alarm     Event OSD     HTTP Action Device Al	+					d Event , Or	n Disconnec	ct , Shock E		ply

## 5.5.9 HTTP Action

According to Event, TCS-3000 will transmit HTTP API to Device. (User should put in HTTP API). Before starting this feature, please enable HTTP Action on the Notification page.

DW						Live
😼 Video&Audio 🛛 +	HTTP Action					
📑 Image +	No .	String	Auth Type	ID	PW	Enable
Network +	1.		None v			
Event -	2.		None v			
<ul> <li>Notification</li> </ul>	4.		None v		[	
User Defined Event						
Motion Detection					Арг	ly
Audio Detection						
<ul> <li>Shock Detection</li> </ul>						
<ul> <li>Sensor</li> </ul>						
Alarm						
Event OSD						
HTTP Action						
🛄 Device 🕂						
😻 AI 🛛 🕂						
📥 PTZ 🛛 🕂						
& User +						
🔁 System 🕂						

# 5.6 Device

# 5.6.1 Information

The information provides the current serial communication status.

N						Live
😼 Video&Audio	+	device information				
🛊 Image	+		COM2	Tx=0 (bps)	Rx=0 (bps)	
Network	+					
Event	+					
🚍 Device	-					
<ul> <li>Information</li> </ul>						
Serial						
💱 AI	+					
📩 PTZ	+					
😣 User	+					
System	+					

# 5.6.2 Serial

D						Live
5	Video&Audio	+	COM2 (RS-485 Port)			
	Image	+	Protocol	RS-485	Ŧ	
- 22	Network	+	Bitrate	2400 *	bps	
	Event	+	Data Bit	8 💌	Bits	
	Device	-	Parity	None •		
	Information		Stop Bit	1 *	Bits	
	Serial		Pass Through TCP Port	0	(0=Disable)	
<b>i</b>	E AI	+	485 Terminating Resisters	Off v		
2	PTZ	+				
8	User	+			Apply	
0	] System	+				

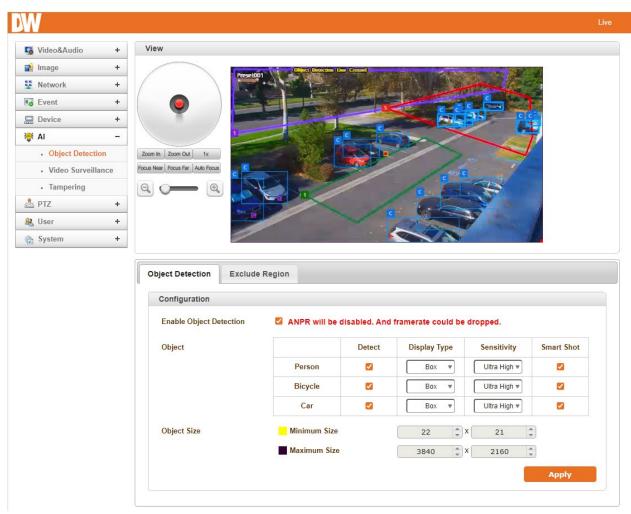
- Serial Protocol: This camera supports one RS-485 serial port.
- Serial Port Configuration: The serial ports can be configured as follows;

Each serial port configuration must be the same as the connecting device.

Mode	Selection
Bitrate	2400, 4800, 9600, 19200, 38400, 57600, 115200 bps
Data Bits	5, 6, 7, 8 bit
Parity	NONE, EVEN, ODD bit
Stop Bit	1, 2 bit

# 5.7AI

# 5.7.1 Object Detection



## **Object Detection Tab**

- Enable Object Detection: When enabled, the camera will analyze, detect, and track objects (Person, Bicycle, or Car) as they appear in the scene.
- Detect: Enable or disable tracking of select object types.
- Display Type: Choose how the object will be shown.
  - **Box:** A box will appear around detected objects.
  - Blur: Detected objects will be blurred out.
- Sensitivity: It determines the sensitivity of the object detection.

- Ultra High: Farther objects on the screen are also detected.
- **High:** Accuracy and quantity vary depending on scenery, but the detection of objects closer is the priority.
- Middle: Accuracy and quantity vary depending on the scenery.
- $\circ$   $\quad$  Low: More objects are detected but with less accuracy.
- Object Size: [optional] Set the minimum and maximum measurements of objects.

## Exclude Region Tab

Set an area to exclude from detection any objects.

Video&Audio +	View			
lmage +				
Network +	Prese (001	- Carlos and	A A BOOS	
Event +				2
Device +				
AI -	1			
Object Detection	Zoom In Zoom Out 1x	-		
• Video Surveillance	Focus Near Focus Far Auto Focus			1-
Tampering	Q - Q - Q			5
TZ +				
lser +			1 martin	and a state of the
iystem +				
			egion 5 Region 6 Reg	jion 7 Region 8
	Region 1 Region 2 1 Enable Region Configure Region Display Region Region Type Object	Region 3     Region 4     R       Edit     Remove       2       •     Region       •     Region       •     Person	s Search Spot	jion 7 Region 8
	Enable Region Configure Region Display Region Region Type	Edit     Remove       Image: Constraint of the second secon	s Search Spot	
	Enable Region Configure Region Display Region Region Type	Edit Remove      Constant Region     Person Bicycl	Spot	Арріу
	Enable Region Configure Region Display Region Region Type		spot e Car Region 3	Apply Region 4

Region: The user can set an onscreen area within which camera analytics will be ignored (up to 8 areas can be set). Select a Region tab to add, edit, or remove an exclusion region. Even if an object is detected on the screen inside the Excluded Region, the object detection is ignored. (All objects moving or still inside this Region are not detected.)

- Enable Region: When enabled, the selected exclusion zone will be active.
- Configure Region: Add/edit, remove, or search a detection region. Regions can be moved and shaped by directly clicking and dragging in the camera's preview window.
- Display Region: Enable this setting to have the camera actively show the detection zone.
- Region Type: Select either a Region or a Spot zone type.
- Object: Select the object types to be ignored by the camera, when passing through the exclusion zone.

# 5.7.2 Video Surveillance

Set an area to detect an object.

## Region Tab

The user can set an onscreen area within which camera analytics will detect objects (up to 8 areas can be set). Select a Region tab to add, edit, or remove a detection zone.

- Enable Region: When enabled, the selected detection zone will be active.
- Configure Region: Add/edit, remove, or search a detection region. Regions can be moved and shaped by directly clicking and dragging in the camera's preview window.
- Display Region: Enable this setting to have the camera actively show the detection zone.
- Enable Direction: Enable this setting to specify a direction of movement for an object to trigger the detection zone.
- Configure Direction: Specify the direction of movement that objects must travel to trigger the zone.
- Enable Crowd Counting: Enable and set numeric ranges for the quantity of tracked objects to trigger the zone.

		Liv
Video&Audio	• View	
mage ·		
Network	Preset001	and a start of the
Event		
Device		
AI		
Object Detection	Zoom In Zoom Out 1x	
• Video Surveillance	Focus Near Focus Far Auto Focus	and the second
Tampering		
PTZ		
User		
System ·		
	Region 1 Region 2 Region 3 Region 4 Region 5 Region	n 6 Region 7 Region 8 Default
	Enable Region	
	Configure Region Edit Remove Search	
	Display Region	
	Enable Direction	
	Configure Direction Edit Remove	
	Enable Crowd Counting	
		Apply
	Region 2 Region 3	Region 4
	Not Configured Not Configured	figured Not Configured
	Region 6 Region 7	Region 8

## **Event Handler**

- Event: Select the event type(s) and object type(s) that will trigger the detection area.
  - Stay Duration Set a time threshold for how long an object must remain still within the region to trigger the detection zone.
  - Loitering time Set a time threshold for how long an object must remain within the region to trigger the detection zone.
- Action: Set the response to the detection zone being triggered.
  - Alarm: Emit an audio soundbite (ext. speaker required).
  - Send an Email: Send an SMTP email notification (set in Network > Email)
  - FTP: Send a video clip to a specified server (set in Network > FTP)
  - Preset: Trigger a PTZ preset position (set in PTZ > Preset)
  - HTTP Action: Trigger an HTTP action (set in Event > HTTP Action)
  - Event OSD: Display text in the camera OSD related to the event.

- Send Extra Event: Trigger another event rule within the camera.
- Schedule Table: Specify a day of week and time of the day for when the region's detection event will be active.

Event	Туре	Appear	Stay	Direction	Enter	Exit	Loitering
	Person						
	Bicycle						
	Car						
	Stay Duration						1 sec
	Loitering Time						1 sec
Action	Alarm 1						
	E-mail	0 @	þ				
	FTP	00	þ				
	Preset		Pre	set-1 v			
	HTTP Actio		HTTP	Action 1 💌	ô		
	Event OSD		Event		а С		
					ĉ,		
Send Extra Event	0	ff v					
Schedule Table	• Off	0	n				
	0	1 2 3 4	5 6 7	8 9 10 11	12 13 14	15 16 17	7 18 19 20 21 22 2
	SUN						
	MON						
	TUE						
	WED						
	THU						
	FRI SAT						

## <u>Line Tab</u>

The user can draw a line where camera analytics will detect objects as they cross the line (up to 8 areas can be set). Select a Line tab to add, edit, or remove an exclusion region.

				Liv
Video&Audio	+ View			
Image	+	reve(001,		And and a second second
Network	+	C EMENY	Reg of the set	and the second
Event	• 🔘 📒			
	+			
Object Detection	Zoom In Zoom Out 1x Focus Near Focus Far Auto Focus			
Video Surveillance     Tampering			1 100	
	+			
	+		Clim	"and
	Region Line			
	Line 1 Une 2	Line 3 Line 4 Line 5 I	Line 6 Line 7 Line 8	
	Enable Line			
	Configure Line	Edit Remove	Search Change Di	action
	Display Line			
	Object	🗹 Person 🗌 Bicycle	🗹 Car	
	Enable Counting			
	Display Count OSD	<ul> <li>〇</li> <li>〇</li> </ul>		
				Apply
		Line 2	Line 3	Line 4
		Not Configured	Not Configured	Not Configured
		S.		
	Line 5	Line 6	Line 7	Line 8
	Not Configured	Not Configured	Not Configured	Not Configured

- Enable Line: Enable this setting to activate the detection line.
- Configure Line: Add/edit, remove, search, or change direction a detection region. Lines can be moved and shaped by directly clicking and dragging in the camera's preview window.
- Display Line: Have the camera display the detection line.
- Object: Select the object types that will trigger the detection line.
- Enable Counting: Enable to count how many times the detection line has been triggered.
- Display Count OSD: Enable to display the count tally for line crossing in the camera OSD.

## **Event Handler**

• Event: Select the event type(s) and object type(s) that will trigger the detection area.

- Stay Duration Set a time threshold for how long an object must remain still within the region to trigger the detection zone.
- Loitering time Set a time threshold for how long an object must remain within the region to trigger the detection zone.
- Action: Set the response to the detection zone being triggered.
  - Alarm: Emit an audio soundbite (ext. speaker required).
  - Send an Email: Send an SMTP email notification (set in Network > Email)
  - FTP: Send a video clip to a specified server (set in Network > FTP)
  - Preset: Trigger a PTZ preset position (set in PTZ > Preset)
  - HTTP Action: Trigger an HTTP action (set in Event > HTTP Action)
  - Event OSD: Display text in the camera OSD related to the event.
- Send Extra Event: Trigger another event rule within the camera.
- Schedule Table: Specify a day of week and time of the day for when the region's detection event will be active.

## 5.7.3 Tampering

#### **Tampering**

An event occurs when an external physical impact on the camera is dealt with or when the video screen is covered by more than 40%.

		Live
😼 Video&Audio	+ View	
👔 Image	+	
Vetwork		
🛃 Event		
Device		
🔮 AI		
Object Detection	Zoom In Zoom Out 1x	
<ul> <li>Video Surveillanc</li> </ul>		
Tampering		
📩 PTZ	+	
😫 User	•	
System	+	
	Tampering	

- Enable Tampering: Enable to trigger an event alarm when the camera is manually moved. This is detected through the camera's motion detection feature and by monitoring the current positioning of the camera's scene.
- Sensitivity: Set the sensitivity threshold for activating the event alarm.
- Duration: Set the time threshold for how long the camera must be actively tampered with to trigger the event alarm.

## **Event Handler**

- Event: Select the event type(s) and object type(s) that will trigger the detection area.
  - Stay Duration Set a time threshold for how long an object must remain still within the region to trigger the detection zone.
  - Loitering time Set a time threshold for how long an object must remain within the region to trigger the detection zone.
- Action: Set the response to the detection zone being triggered.
  - Alarm: Emit an audio soundbite (ext. speaker required).
  - Send an Email: Send an SMTP email notification (set in Network > Email)
  - FTP: Send a video clip to a specified server (set in Network > FTP)
  - Preset: Trigger a PTZ preset position (set in PTZ > Preset)
  - HTTP Action: Trigger an HTTP action (set in Event > HTTP Action)
  - Event OSD: Display text in the camera OSD related to the event.
- Send Extra Event: Trigger another event rule within the camera.
- Schedule Table: Specify a day of week and time of the day for when the region's detection event will be active.

# 5.8PTZ

# 5.8.1 General

😼 Video&Audio	+ PTZ					
🙀 Image	+	PTZ Type	<u> </u>	•		
Network	+	PTZ ID				
Event	+	PTZ Port	COM2	•		
Device	+					
🔮 AI	+					Apply
📩 PTZ	-					
- General						
Preset						
Pattern						
Swing						
Group						
Advanced						
Direction OSD						
Location OSD						
Tracking						
😢 User	+					

- PTZ Type: Select the type of PTZ camera or receiver.
- PTZ ID: Since it is possible to control multiple PTZ cameras or receivers over a single control line, each camera or receiver will be assigned a unique ID. Enter the PTZ ID of a camera or receiver to control. The ID value range can be between 0 and 255.
- PTZ Port: Select the serial port for PTZ camera control.

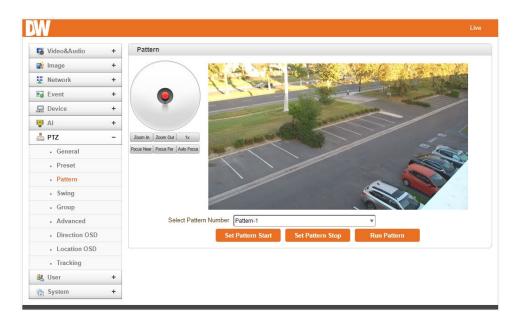
## 5.8.2 Preset

DW		Live
Video&Audio +	Preset	
📑 Image 🛛 🕂		
Network +		1
Event +		
🛄 Device 🕂	The second secon	
😻 AI 🛛 🕂		
📥 PTZ 🛛 –	Zoom In Zoom Out 1x	
General	Focus Near Focus Far Auto Focus	
Preset		,
Pattern		
Swing		
Group		
Advanced	Select Preset Number Select Preset 💌	
Direction OSD	Set Go to Erase	
Location OSD	Focus Mode Select Preset First	
Tracking	Event Holding Time sec (0 ~ 255)	
& User +	Edit Label Select Preset First	
System +	Image Index Select Preset First 💌	
	Apply	

Max 128 preset positions can be defined.

- Select Preset Number: Select an entry in the list to be assigned to the current camera position.
  - Focus Mode: Select the focus mode after the preset Goto is executed.
  - Do not change: The current focus mode is not changed.
  - Focus Auto: auto-focusing is executed after the preset is moved.
  - Focus Manual: move to the focus position saved when preset set.
- Event Holding Time: Set the time to stay at the preset position when the event moves the preset. If set to 0, the camera doesn't return to the original position after moving to the preset position by event.
- Edit Label: Assign a label to the preset position. Only the first 15 preset entries (Preset-1 ~ Preset-15) can have labels.

# 5.8.3 Pattern



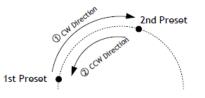
Max. 4 of Patterns can be recorded and played back. This enables to move camera to follow any

trajectory operated by a joystick as closely as possible.

## 5.8.4Swing

Video&Audio	+	Swing					
🛊 Image	+		No.	Enable	1st Position	2nd Position	Speed (1~255)
Network	+		1		No Preset 💌	No Preset 💌	40
Event	+		2		No Preset 💌	No Preset 💌	40
Device	+		3		No Preset v	No Preset v	40
			4		No Preset V	No Preset V	40
AI	+		5		No Preset V	No Preset v	40
📥 PTZ	-		6		No Preset v	No Preset v	40
General			7		No Preset *	No Preset v	40
<ul> <li>Preset</li> </ul>			8		No Preset 💌	No Preset v	40
Pattern							Apply
- Swing							
<ul> <li>Group</li> </ul>							
<ul> <li>Advanced</li> </ul>							
Direction OSD							
Location OSD							
<ul> <li>Tracking</li> </ul>							
- muoning							

Using the swing function, you can make the camera move between 2 preset positions repeatedly. When the swing function runs, the camera moves from the preset assigned as the 1st point to the preset assigned as the 2nd point in the CW(Clockwise) direction. Then, the camera moves from the preset assigned as the 2nd point to the preset assigned as the 1st point in the CCW (Counterclockwise) direction.



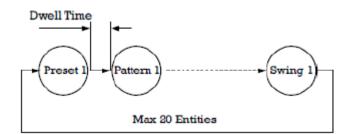
In case the preset assigned as the 1st point is the same as the preset assigned as the 2nd point, the camera turns on its axis by 360° in CW(Clockwise) direction and then it turns on its axis by 360° in CCW(Counterclockwise) direction.

- 1. Check the **Enable** box.
- 2. Select the Preset for 1st Position and 2nd Position.
- 3. Enter the **speed** (0~255).
- 4. Press the Save Swing button to save.

## 5.8.5 Group

😼 Video&Audio	+	Group								
📑 Image	+									
Vetwork	+	#1	#2 #3	#4	#5	#6	#7	#8		
Event	+					Simultan	eous Ac	tion With PTZ Tracking		
🛄 Device	+	No.	Action		Dwe	II Time(0~2	255)	Option(1~255)	Enable	
🐺 AI	+	1	No Preset	Ŧ	0	sec		Speed 255		
📥 PTZ	-	2	No Preset	*	0	sec		Speed 255		
General		3	No Preset		0	sec		Speed 255		
Preset		4	No Preset	W	0	sec		Speed 255		
Pattern		5	No Preset	W	0	sec		Speed 255		
Swing		6	No Preset	W	0	sec		Speed 255		
Group		7	No Preset	W	0	sec		Speed 255		
Advanced		8	No Preset	W	0	sec		Speed 255		
Direction OSD		9	No Preset	W	0	sec		Speed 255		
Location OSD		10	No Preset	W	0	sec		Speed 255		
Tracking		11	No Preset	W	0	sec		Speed 255		
🍇 User	+	12	No Preset	W	0	sec		Speed 255		
🔄 System	+	13	No Preset	W	0	sec		Speed 255		
		14	No Preset	Ŧ	0	sec		Speed 255		
		15	No Preset	*	0	sec		Speed 255		
		16	No Preset		0	sec		Speed 255		
		17	No Preset		0	sec		Speed 255		
		18	No Preset		0	sec		Speed 255		
		19	No Preset	W	0	sec		Speed 255		
		20	No Preset	*	0	sec		Speed 255		Apply

This function is that the camera memorizes the combination of Presets, Pattern and/or Swings sequentially and runs Presets, Pattern and/or Swings repetitively on activation. Max 8 groups are programmable. Each group can have a max of 20 actions, which are the combinations of Preset, Pattern and Swing. The option field has different meanings for Preset and Pattern/Swing. For Preset, it configures the preset speed. For Pattern/Swing, it configures the number of repetitions. Dwell time between actions can be set up as well.



- 1. Select one of the entries of the group.
- 2. Press the Modify Group button. The following window will appear.
- 3. Set Action, Dwell Time and Option and click Enable squares.
- 4. Press Apply to save the group.

Group					
#1	#2 #3 #	4 #5	#6 #7	#8	
No.	Action	Dwel	ll Time(0~255)	Option(0~255)	Enable
1	Preset-1	<b>•</b> 54	sec	Speed 77	
2	Preset-6	• 5	sec	Speed 124	
3	Preset-127	• 23	sec	Speed 55	
4	Preset-21	• 23	sec	Speed 43	
5	No Preset	• 0	sec	Speed 0	

# 5.8.6 Advanced

		Liv
Video&Audio	+ Advanced	
nage	+ Max Jog Speed 120 v degree/sec	
Network	+ Max Zoom Speed 5 *	
Event	+ Max Position Move Speed 30	
Device	+ Freeze on Position Move Off On	
€ AI	+ Zoom Proportional Jog Off o On	
PTZ	- Auto Flip Off • On	
- General	Prevent Auto PTZ o Off On	
Preset	Display PTZ Action • Off Auto On	
- Pattern	Display Zoom Magnification Off On	
. Swing	Power Up Action Off Last Action Preset-1 Preset-2 Preset-3	
- Group	Auto Focus after Zoom Control Off o On	
Advanced	One Shot AF after PTZ Off On	
Direction OSD	AF Sensitivity 3	
Location OSD	AF Area o Auto Full Center Peak	
Tracking	Motion Detection and Tampering disable on PTZ On	
User	+ Ventilation Ventilation	
] System	Calibration Calibration Calibration Run	
	Auto Calibration • Off On Auto Parking	
	Parking Time 0 sec (0~3800, 0:0ff)	
	Parking Action #1 No Preset *	
	Parking Action #2 No Preset v	
	Parking Action #3 No Preset *	
	Parking Action #4 No Preset v	
	Schedule of Auto Parking	
	Parking Action #1     Parking Action #2     Parking Action #3     Parking Action #4	
	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 SUN	
	SAT	

## <u>Advanced</u>

- Max Jog speed: There are eight levels of zoom speed.
- Max zoom speed: There are eight levels of zoom speed.
- Free on Position Move: During PTZ operating, stopped video before PTZ operating is showing on the display. Once the PTZ operation is stopped, the video is changed to the current position.
- Zoom Proportional Jog: When Zoom Proportional Jog is on, the Pan/Tilt speed can be set automatically after zooming in.
- Auto Flip:

- **On:** in case that tilt angle arrives at the top of tilt orbit, the camera turns 180 degrees at the top and moves in the opposite direction to keep tracking targets.
- Off: more than 90 degrees tilt moving is not available.
- Display PTZ Action: PTZ control actions such as Preset Goto, Pattern, Swing or Group can be displayed on the top of the live display as the information is displayed with burn-in OSD. It is inserted into the encoded stream; all clients can see the information.
- Digital Zoom Magnification: Display zoom ratio.
- Power Up Action: Specify if the camera will continue the previous action, such as pattern, swing or group, after it is rebooted by power.
  - Group-1: When it will reboot, start to Group-1
  - Preset-1: When it will reboot, start to Preset-1
  - Off: Moves to the initial position after rebooting.
- Auto Focus after Zoom control: the camera zooms in and out of the view, and the focus will adjust automatically once the zoom stops moving.
- One Shot AF after PTZ: when the camera's pan, tilt and zoom are done working, the autofocus will work automatically.
- Motion Detection and Tampering Disable on PTZ: Disable the motion detection and tampering when the camera's pan, tilt and zoom are working.

## Auto Parking

Auto parking is a function to return to the previous preset position or to resume operation such as Pattern, Swing or Group when a specified time expires after the user stopped PTZ control. Parking time can be set from 0 to 3600 seconds, and "0" means the Auto Parking function is turned off.

- **Parking Time:** Performs the *Parking Action* after the set time has been reached, if there is no command. This will trigger automatic tracking even if other commands such as *Jog Control Action, Go Preset*, etc. are executed.
- **Parking Action:** Allows to set group presets and enable tracking on a schedule (hour of day, day of week).

Video&Audio	+ Direction OSD									
👔 Image	+	Ser 10	170.0	Called - Maria	Se de	States .	18 . A			
Network	+ /	The sea		and the second		in the				
Bvent	• ()	10			7	-				
Device	+			ALC: NO	NV	-				
AI 🗧	+			in the winds						
🛓 PTZ	- Zoom in Zoom Out	1x	which the Martin				5			
General	Focus Near   Focus Far   Aut	o Focus				· ~	2.			
Preset					-		4.			
Pattern					-	A Y				
- Swing				4						
Group					X					
Advanced										Update Image
Direction OSD										1
Location OSD										
Tracking	2		2	2		~			2	2
🖲 User	+									
System	+									
			Enable	String	X-Coord (0~1000)	Y-Coord (0~1000)		Color		
		Range #1 - IN			0	0	30	White *	]	
		Range #1 - OUT	<u> </u>		0	0	30	White v	1	
		Range #2 - IN			0	0	30	White w	1	
					U				1	
		Range #2 - OUT			0	0				
		Range #2 - OUT Range #3 - IN			0	0	30	White w		
		Range #2 - OUT			0	0	30 30 30			

# 5.8.7 Direct OSD (ONLY PT System)

- 360-degree panoramic shot.
- Users can select the area in the camera's view to display the OSD.
- Range # In: According to the coordinate value, users can see specific OSD.
- Range # On: regardless of coordinate value, users can see specific OSD.
- X Coord: Position of horizontal.
- Y Coord: Position of vertical.
- Font size: Font size.
- Hue: Color.

# 5.8.8 Location OSD

W					Live
5 Video&Audio	+ Location (	DSD			
📑 Image	+			BGC THE NEW YORK	Case March March
Vetwork	+	10			A Contraction
Event	+ (6	1 20			
Device	+			and the second s	The section of the se
AI	+			BI COLL & BARRING	10
📥 ртг	- Zoom In Zoom	Out 1x	and the state of t		and a
General	Focus Near Focus	Far Aulo Focus			12 E 14
Preset					1000°
Pattern					A A A
- Swing					
- Group			and the second se		
- Advanced		Double click	to set location.		
Direction OSD		Select OSD Se	lect OSD	¥	Go to
Location OSD		Edit Label Se	lect OSD First		Show All
Tracking		Font Size -	(12 ~ 84)		Hide All
🎎 User	+	Degree -	(0 ~ 359)		
🐑 System	+	Color Se	lect OSD First	¥	
		Show OSD			Apply
	Compass	OSD			
		Enable Of	F	*	Apply

Users can find the registered OSD and even move to a specific location.

Users can even edit the Label of the OSD and change font size, degree and color.

By checking on the "Show OSD," the user can continuously maintain the OSD on screen.

Compass the position of the OSD by entering the X and Y coordinates.

Select the background desired or use the default background by turning it off.

# 5.8.9 Tracking

Video&Audio	+	View	
🔹 Image	+		the second s
Network	+		
Event	+		are a second
Device	+		
💱 AI	+		
📥 PTZ	-	Zoom In Zoom Out 1x	and the second s
General		Focus Near Focus Far Auto Focus	
Preset			
Pattern			
- Swing			
Group			
Advanced			
Direction OSD		<ul> <li>General</li> </ul>	
Location OSD		Target Object	🗹 Person 🗌 Bicycle 🗌 Car
Tracking		Tracking Priority	Stand Alone 🛛
😫 User	+	Session Time	5 (0 ~ 10sec)
👌 System	+	Tracking	
		Target State	All
		View Size	Middle •
		Zoom	On 💌
		Zoom Limit	Unlimited •
		Tracking Time	30 sec v
		Holding Time	3 (2 ~ 60sec)
		Reset Position	Previous Preset
		Run Tracking	Stop Tracking

The camera provides a Tracking feature according to motion detection and AI.

## <u>General</u>

- Target Object: Choose the type of Object to track.
- Tracking Priority:
  - Stand Alone: Recognizes and tracks objects within the field of view.
  - **External Tracking:** When an object or motion is detected by a fixed camera (bullet, etc.) that is installed on the same pole as the PTZ camera, the coordinate information that is detected by the fixed camera is sent to the PTZ camera so that it can orient itself to the coordinates to track the new detection.
- Session Time: External Tracking setting for how long to wait (seconds) for the PTZ after an object has disappeared from the fixed camera's (bullet, etc.) view. This is similar to the *Holding Time* setting.

## Standalone Tracking

• Target State: Decide the target state of the object.

- Moving/Stay: Tracking progresses when a detected object moves or stays for the set time after detection.
- Flow: Tracks objects that move in the direction of the Ai ROI (region of interest) Direction.
- View Size: Size desired to be shown on the screen. Select whether to keep the size of objects on the PTZ screen as large (zoomed-in), medium or small (wide) while tracking objects.
- Zoom: Availability of zoom integration.
- **Zoom Limit:** Decide the zoom limit for the camera to zoom in. Set whether to use the zoom-in function when an object moves away, as well as how far to increase magnification.
- **Tracking Time:** Decide how much time the camera will follow the object. Determines how long to keep tracking an object after it has been detected (infinite, 10 sec, 30 sec, 1 min, 2 min, 3 min, 5 min, 10 min).
- Holding Time: Set how long the PTZ camera should remain pointed at a coordinate after an object that it has been tracking disappears or is no longer detected.
- Waiting Time: The time to wait for the next object tracking.
- **Reset Position:** Return to the preset position after the *Holding Time* has been reached after a tracked object disappears.
- **Run Tracking:** Track the objects with the above setups. *Run Tracking* is a one-time command and if a jog control action or other command to redirect the camera, *Run Tracking* will stop.
- Stop Tracking: Stop tracking.

# 5.9 User

## 5.9.1 User List

W						
😼 Video&Audio	+	User List				
📑 Image	+			ID	Privilege Level	
Network	+			admin	Admin	۲
Event	+		L			
🚍 Device	+		Add	Delete	Modify Password	Modify Privilege
💱 AI	+					
🏝 PTZ	+					
🍇 User	-					
User List						
Login Policy						
System	+					

Users can be registered and specify the privilege level of a user. User configuration is allowed only to the admin user. A maximum of 16 users can be registered, each with one of four privileges.

Privilege	Allowed Operations	Remarks
Admin	All operations	User ID = admin
Manager	All operations except for user configuration	
User	Live viewing and PTZ control	
Guest	Live viewing only	

• Add User: Press the Add Button. The following window will appear.

Add User		×
ID		
Password		
Confirm Password		
Privilege Level Admin	*	
Minimum 8 characters with at least four lowercase letters, numbers and special Acceptable special characters are; [@ = Passwords cannot contain ID.	characters.	
	Add	Cancel

Enter the User ID and password (Up to 15 characters) and select Privilege Level.

- Delete User: Select the User to be deleted and press the **Delete** button.
- Change Password: Press the Modify Password button. The following window will appear.

Modify Password			×
ID a	admin		
Current Password			
New Password			
Confirm Password			
lowercase letters, num	s with at least four combination bers and special characters. aracters are; ! @ # \$ % ^ & * ntain ID.		
	Мо	odify	Cancel

Enter the current password and then set a new password.

• Modify Privilege Level: Press the **Modify Privilege** button to change the User level. It is not allowed to change the privilege level of the admin user.

Modify Privilege Level		ж
ID	admin	
Privilege Level	Admin 💌	
	Modify	Cancel

# 5.9.2 Login Policy

😼 Video&Audio	+	Login Policy	
📸 Image	+	Authentication Type 🔿 Basic 🖲 Digest	Apply
Network	+		
Event	+	Authentication	
Device	+	RTSP Authentication O Off  On	
🐺 AI	+	HTTPAPI Authentication 🔿 Off 🖲 On	Apply
📩 PTZ	+		
🍇 User	-	Login Failure Process	
User List		Number of Login failures Allowed No limit	Apply
Login Policy			

## Login Policy

- Skip Login provides convenient access to the server when authentication is not required. When Skip Login is set to Enable, the login step is skipped. The setting of Privilege Level determines the privilege level after login after the login is skipped.
- Authentication: HTTP authentication based on RFC 2617(HTTP Authentication: Basic and Digest Access Authentication) is supported.

# 5.10 System

# 5.10.1 Information

DW					Live
5	Video&Audio	+	System Information		
<b>.</b>	Image	+	Model	DWC-XPZA08Mi (4E073)	
- 22	Network	+	IP FW Version	V13.309B10_T857	
	Event	+	PTZ FW Version	<u>AD (173)</u>	
	Device	+	Zoom Module Version	114031610806	
- ig:	AI	+	ONVIF Version	<u>21.12</u>	
<u></u>	PTZ	+	OpenSSL Version	OpenSSL 1.1.1j 16 Feb 2021	
88	User	+	AI Version	D230630 B230622 L230706	
٢	System	-	MAC Address	00:1C:63:D4:59:D0	
	<ul> <li>Information</li> </ul>		IP Address	<u>192.168.15.72</u>	
	Upgrade&Reboot		Domain Name	Not RegisteredB	
	Time		Input Power	PoE	
	- OSD		Video Analysis Status	License valid, Video analysis activated.	
	Language				
	• Log				

## System information

Followed network information is displayed (Read only)

- Model: Display the model name.
- Version: Display the current firmware version.
- Mac Address: Display the MAC address of the camera. If the camera is registered at the DDNS server, the MAC address is used in DDNS registration.
- Set Current Time: Display Current date and time
- Current Domain: In case the camera is registered at the DDNS server, the registered domain name is displayed.

## 5.10.2Upgrade and Reboot

			Live
🚯 Video&Audio	+	Firmware	
📑 Image	+	IP FW Version V13.309B10_T857	
Network	+	Upgrade Choose File No file chosen	Firmware Upgrade
Event	+		
Device	+	Config Backup&Restore	
😵 AI	+	Backup	Config Backup
📥 PTZ	+	Restore Choose File No file chosen	Config Restore
🎎 User	+		comig restore
🍖 System	-	Reboot	
<ul> <li>Information</li> </ul>			Reboot
<ul> <li>Upgrade&amp;Reboot</li> </ul>			
• Time		Factory Reset	
• OSD		Exclusions Item Network Preset User List	Factory Reset
Language			
• Log		SSL Certificates Upload	
		Crt File Choose File No file chosen	
		Key File Choose File No file chosen	Upload
		Default certificate is being used.	

#### <u>Firmware</u>

- Version: Display the current firmware version. Upgrade: To upgrade firmware;
  - 1. Press the 'Browse' button to select a firmware file from the PC.
  - 2. Press the' Firmware Upgrade' button to start upgrading.
  - 3. A message showing the status (downloading / upgrading) will be displayed.
  - 4. The camera will reboot automatically after completing the upgrade.

Do not turn the camera off during upgrading.

#### Config Backup & Retore

- Backup: All the settings of the configuration can be stored.
- Restore: Stored configuration can be browsed and restored. The server is rebooted once the **Config Restore** button is pressed.

#### <u>Reboot</u>

Reboot the camera: Do not press the Reboot button unless the server needs a reboot.

## Factory Reset

When selected, the camera will perform a complete factory reset of all settings, including network, PTZ settings and users list, to their default settings. To exclude any specific settings, check the box next to the settings to exclude them. Click 'Factory Reset' to apply.

## 5.10.3Time

DW	Live
Video&Audio VideoAudio Video	Live Set Current Time
• Language • Log	

- Start Time: It is set to the latest camera booting date and time.
- Current Time: Current date and time. Enter a new date and time, then press the **Set Current Time** button to update the date & time.
- Time Format: Change the time format. The selectable time formats are as follows;
  - o YYYY/MM/DD hh:mm:ss (Eg. 2012/10.30 12:30:45.)
  - o DD/MM/YYYY hh:mm:ss (Eg. 10/30/2012 12:30:45.)
  - o MM/DD/YYYY hh:mm:ss (Eg. 30/10/2012 12:30:45.)
- Time Zone: Select the time zone where the camera is installed. Depending on the time zone, Daylight Saving Time will work automatically.
- Automatically synchronized with NTP server: Synchronize the camera time with an NTP server using NTP (network time protocol). The name of the NTP server should be registered on the NTP server Name.

## 5.10.40SD

DW		
Video&Audio +	System ID	
📫 Image 🕂	System ID	
Network +		
Event +	Burn-in OSD	
🛄 Device 🕂	System ID 💿 Off 🔿 On	
😻 AI 🛛 🕂	Time 🖲 Off 🔿 On	
📥 PTZ 🛛 🛨	Position 🖲 Bottom 🔿 Top	
🍇 User 🔸	Font Size 40x40	
🍖 System 🛛 –		
<ul> <li>Information</li> </ul>	User-defined Burn-in OSD	
Upgrade&Reboot	No. String X-Coord Y-Coord Font Size (0~1000) (0~1000) (12~84) Color Enable	le
• Time	1 0 0 30 White v	
• OSD	2 0 0 30 White V	
<ul> <li>Language</li> </ul>	3 0 0 30 White v	
• Log	4 0 0 30 White v	
	User-defined Bitmap OSD	
	Bitmap OSD1 Enable Off	
	Bitmap OSD2 Enable Off 🔹	
	Apply	
	- Mark	

## System ID

Enter the System ID that is used as a camera title.

The set System ID is displayed with a video image on a Web Browser. The System ID is also transferred to remote software, such as VMS, and displayed on it.

#### Burn-In OSD

Insert system ID and date/time **in the compressed video**. System ID and time can be turned on or off in the video. Position and Font size can also be configured. System ID for BurnIn OSD exists independently from normal System ID.

#### User-Defined Burn-in OSD

You can enter any text you like independently.

• X-Coordinate or Y-Coordinate

#### User-Defined Bitmap OSD

Note that the Burn-In OSD display size varies according to the encoding resolution setting. This is inevitable because Burn-In OSD is inserted into the frames before encoding is performed. The following table describes the rule for Burn-In OSD display.

Resolution. <i>e</i>	Small (8x8)↩	Middle (16x16)₽	Large (32x32)₽
352x480 / 352x240 / 352x576 / 352x288+2	2↩	<b>1</b> ₽	0⊷
720x480 / 720x240 / 720x576 / 720x288 /«	2₽	20	1e
640x480 / 800x600+3			
1024 x 768 / 1280x720 / 1280 x 960 / 1280x1024 / 1440x900 / 1600x900 / 1680x1050 / 1920x1056 / 1920x1080 / 2048x1536 / 2560x1600 / 2592x19364 <sup>3</sup>	242	2₽	2₽

- 2: Both System ID and Time are displayed
- 1: Either System ID or Time can be displayed. When both are enabled, the System ID is displayed.
- O: No items are displayed. This is because the video area is too small to display OSD text in large text.

## 5.10.5 Language

Select the preferred language to be used for web-based configuration.

DW				Live
Video&Audio	+	Language		
📑 Image	+	Language English	v	Apply
Network	+			
Event	+			
🛄 Device	+			
😻 AI	+			
📥 PTZ	+			
& User	+			
🍖 System	-			
<ul> <li>Information</li> </ul>				
<ul> <li>Upgrade&amp;Reboot</li> </ul>				
. Time				
• OSD				
<ul> <li>Language</li> </ul>				
• Log				

# 5.10.6Log

Image     +       Image     +       Network     +       Event     +       Device     +       K AI     +       S User     +							Live
Nation 1   Streit   Provent   Revent   Provent   Streit	Video&Audio	+ System L	og				
Event Ev	e Image	+					
Perfore A A A A A A A A A A A A A A A A A A A	Network	+					
Au   FTZ   9 stem   • Information   • UsgadsRhoot   • Language   • Log   User Log   User Log   Save System Log Delete System Log File   User Log   Save User Log Delete User Log File   Save Log Option     Indude   Eaclude   User   Backup   OetUser Log   Save User Log   Delete User Log File	event	+					
Intra   information   iugassBiblood   iugagage   o Os0   iugagage   o Log     Uer Log     Uer Log     Save System Log   Dete System Log File     Save System Log     Oeder System Log     Dete Syste	Device	+					
Intra   information   iugassBiblood   iugagage   o Os0   iugagage   o Log     Uer Log     Uer Log     Save System Log   Dete System Log File     Save System Log     Oeder System Log     Dete Syste		+					
by system Information . UpgradsRieboot . Imgrage . Log User Log User Log Exercised User Log Exercised User @ . Concection . Indude Exclude User @ . Concection . Environment . Concection . Environment . Concection . Exercised . Concection . Exercised .	PTZ	+					
information          information         i UpgradeRetord         i Sob         i Language         o Cog         User Log         User Log         Seve Log Option         Induce         Excluse         Backup         Outer         Outer         Sive Log Option         Environment         Environment         Outer	User	+					
Information UpgradeSiRecot I targuage I t	5ystem	-					
<ul> <li>Time</li> <li>OSD</li> <li>Language</li> <li>Icg</li> </ul> File: "Backup & Account & Environment & System CPTZ & Etc & Connecton User Log           User Log         Save System Log         Delete System Log File             User Log         Save User Log         Delete User Log File             Exer Log Option         Indude         Exclude             Save Log Option         Indude         Exclude             Environment         User         O             Save Log Option         Indude         Exclude             Environment         O             System         O             Environment         O							
I Language          i Language         i Log         Get System Log       Save System Log         User Log         Save Log Option         Include       Exclude         User Log       Save User Log         Delete User Log File         Save Log Option         Environment       System         Environment       System         System       System         PTZ       System         PTZ       System         PTZ       System	- Upgrade&Reboot						
i. Language   i. Log     Get System Log   Save System Log   Delete System Log File     User Log     Get User Log     Save User Log     Delete System Log File     Get User Log     Save User Log     Delete System Log File     Save Log Option     Include     Environment   System   System   PTZ   O   FIZ   O   Eto   O	. Time						/
User Log User Log User Log User Log Save User Log Option  Save Log Option  Include Exclude User Backup 0 Connection PTZ 0 Ete 0 Connection 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- OSD	Filter 🗹	Backup 🗹 Account 🗹 Envir	onment 🗹 System	🗹 PTZ 🔽 Etc	Connection	
User Log         Get User Log       Save User Log         Delete User Log File         Save Log Option         Include       Exclude         User       0         Backup       0         Account       0         Environment       0         System       0         FTZ       0         Etc       0         Connection       0	<ul> <li>Language</li> </ul>			Get Sys	stem Log	Save System Log	Delete System Log File
User Log         Get User Log         Save User Log         Detete User Log File             Save Log Option             Include       Exclude         User       0         Baskup       0         Account       0         Environment       0         System       0         FTZ       0         Ets       0         Connection       0	Log						
Save Log Option Include Exclude User   Backup Backu							
Include Exclude User							
User			Qué a	Get	User Log	Save User Log	// Delete User Log File
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Account   Account  Account  Environment  O  System  PTZ  Connection  Connection  O  Connection  Connec		Save Log		Include	Exclude	Save User Log	Delete User Log File
Environment		Save Log	User	Include	Exclude	Save User Log	Delete User Log File
System		Save Log	User Backup	Include ()	Exclude O O	Save User Log	Delete User Log File
PTZ		Save Log	User Backup Account	Include e e e	Exclude O O	Save User Log	Delete User Log File
Eto   Connection  Connection		Save Log	User Backup Account Environment	Include	Exclude O O O	Save User Log	Delete User Log File
Connection O 🛞		Save Log	User Backup Account Environment System	Include © © © © ©	Exclude O O O O	Save User Log	Delete User Log File
		Save Log	User Backup Account Environment System PTZ	Include (a) (b) (c) (c) (c) (c) (c) (c) (c) (c	Exclude O O O O O	Save User Log	Delete User Log File
		Save Log	User Backup Account Environment System PTZ Eto	Include	Exclude O O O O O O O	Save User Log	Delete User Log File

## System Log

Video Server's log can be shown and saved as a txt file. Various filters could be selected.

#### <u>User Log</u>

The user (Client) log can be shown and saved as a txt file.

#### Save Log Option

Various options can be included or excluded.

# Specifications

	DWC-XPZA03Mi	DWC-XPZA08Mi		
IMAGE				
Image sensor	3MP 1/1.8" Star-Light Plus™ sensor	4K 1/1.8" Star-Light Plus™ sensor		
Active pixels	2304 (H) x 1296(V)	3840 (H) x 2160(V)		
Minimum scene illumination	0.005 lux (color)			
Minimum scene numination	0 lux (B/W)			
LENS	·			
Focal length	6.5~260mm, F1.4			
Lens type	Vari-focal lens with motorized zoom a	and auto-focus		
Horizontal Field of view (HFoV)	1.6°~64.1°			
Vertical Field of view (VFoV)	0.83°~33.4°			
IR distance	1184ft range			
Optical zoom / digital zoom	40x optical zoom, 16x digital zoom			
I/O				
Audio input/output	1 input/1 output			
Audio compression	G.711			
Alarm input/output	4x sensor input / 2x alarm output / 1x	4x sensor input / 2x alarm output / 1x RS485 port		
Event trigger	Motion alarm, sensor input, client disc	Motion alarm, sensor input, client disconnection		
OPERATIONAL				
Shutter mode	Auto, manual, slow Shutter			
Shutter speed	1/1 ~ 1/100,000			
Slow Shutter	N/A	N/A		
Auto gain control	Auto	Auto		
Day and night	TDN, Auto, day (color), night (B/W)			
3D Digital Noise Reduction	Smart DNR™ 3D-DNR	Smart DNR™ 3D-DNR		
Wide Dynamic Range (WDR)	True WDR	True WDR		
White balance	Yes	Yes		
Privacy zones	8 programmable privacy masks			
Backlight compensation (BLC)	Yes			
Mirror and flip				
	Notifications via email, FTP, alarm o	utput, OSD alert, PTZ preset, recording,		
Alarm notifications	HTTP action			
PTZ FUNCTION				

Pan range	360°(endless)			
Pan speed	Max speed: 250°/sec,Manual speed: 0.065°/sec ~ 250°/sec			
Tilt range	100°(-10°~90°)	100°(-10°~90°)		
Tilt speed	Max speed: 130°/sec,Manual speed	d: 0.065°/sec ~ 130°/sec		
Preset	500 presets			
Swing	8 swing patterns			
Pattern	4 patterns			
Group	8 groups			
Auto parking and auto-tracking	Yes			
NETWORK				
LAN	RJ45 (10/100Base-T)	RJ45 (10/100Base-T)		
Video compression type	H.265, H.264, MJPEG	H.265, H.264, MJPEG		
Resolution	352x240 ~ 2304x1296	352x240 ~ 3840x2160		
Frame rate	Max 60fps @ 2304x1296	Max 30fps @ 3840x2160		
N	Primary: 32Kbps ~ 16Mbps	Primary: 32Kbps ~ 16Mbps		
Video bitrate	Secondary: 32Kbps ~ 4Mbps			
Bitrate control	H.264, H.265: CBR, VBR, Hybrid M.	H.264, H.265: CBR, VBR, Hybrid MJPEG: VBR		
	Quad streaming	Quad streaming		
Streaming capability	Primary: H.265, H.264			
	Secondary x 3: H.265, H.264, MJPEG			
IP IPv4, IPv6				
	TCP, UDP, IGMP(Multicast), ICMP,	TCP, UDP, IGMP(Multicast), ICMP, DHCP, HTTP, HTTPS, FTP, SNMP,		
Protocol	SMTP, UPnP, WS-Discovery, Zerc	SMTP, UPnP, WS-Discovery, Zero Configuration, NTP, SRT, MPEG-TS, RTP,		
	RTSP, RTMP, DDNS			
Security	Basic/Digest authentication, HTTF	Basic/Digest authentication, HTTPS, IP address filtering, user access log, TTA		
Security	certification	certification		
ONVIF conformance	Yes	Yes		
Wab viewar	OS: Windows®, Mac® OS, Linux®	OS: Windows®, Mac® OS, Linux®		
Web viewer	Browser: Internet Explorer®, Google Chrome®, Mozilla Firefox®, Safari®			
Video management software	DW Spectrum® IPVMS	DW Spectrum <sup>®</sup> IPVMS		
ENVIRONMENTAL				
Operating temperature	-22°F ~ 140°F (-30°C ~ 60°C)	-22°F ~ 140°F (-30°C ~ 60°C)		
Operating humidity 0-90% RH (non-condensing)				
IK rating	IK10 impact-resistant	IK10 impact-resistant		
IP rating	IP66-rated	IP66-rated		

Other certifications	CE, FCC, RoHS, NDAA, TAA	
ELECTRICAL		
Power requirement	PoE IEEE 802.3bt PoE++ Class7 (Adapter included)	
Power consumption	75W, 1.363A	
MECHANICAL		
Material	Aluminum die-casting	
Dimensions	8.89" x 14.3" (226 x 364mm)	
Weight	12.72 lbs (5.77 kg)	
Warranty	2 year warranty	

# Warranty Information

Go to <u>https://digital-watchdog.com/page/rma-landing-page/</u> to learn more about Digital Watchdog's warranty and RMA.

To obtain warranty or out-of-warranty service, please contact a technical support representative at: 1+ (866) 446-3595, from 9:00 AM to 8:00 PM EST, Monday through Friday.

A purchase receipt or other proof of the original purchase date is needed before warranty service is rendered. This warranty only covers failures due to defects in materials and workmanship that arise during normal use. This warranty does not cover damages that occur in shipment or failures that are caused by products not supplied by the Warrantor or failures that result from accident, misuse, abuse, neglect, mishandling, misapplication, alteration, modification, faulty installation, setup adjustments, improper antenna, inadequate signal pickup, maladjustments 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, damage to recording media) resulting from using 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 above exclusions or limitations may not apply to you. This warranty gives you specific legal rights; you may also have other rights 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. The cost of such service calls is the responsibility of the purchaser.



# Complete Surveillance Solutions

DW® East Coast office and warehouse: 5436 W Crenshaw St, Tampa, FL USA 33634 DW® West Coast office and warehouse: 16220 Bloomfield Ave, Cerritos, CA USA 90703 PH: 866-446-3595 | FAX: 813-888-9262 www.Digital-Watchdog.com technicalsupport@digital-watchdog.com Technical Support PH: USA & Canada 1+ 866-446-3595 International 1+ 813-888-9555 French Canadian: + 1-904-999-1309 Technical Support Hours: Monday-Friday 9 a.m. to 8 p.m. Eastern Time