ConteraIP® Omni LX Remote Setup

Installation Manual

8MP	20MP
AV8476RS	AV20476RS

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About Our Warranty

Global (3 Year) Limited Warranty

ARECONT VISION COSTAR warrants to Purchaser (and only Purchaser) (the “Limited Warranty”), that: (a) each Product shall be free from material defects in material and workmanship for a period of thirty-six (36) months from the date of shipment (the “Warranty Period”); (b) during the Warranty Period, the Products will materially conform with the specification in the applicable documentation; (c) all licensed programs accompanying the Product (the “Licensed Programs”) will materially conform with applicable specifications. Notwithstanding the preceding provisions, ARECONT VISION COSTAR shall have no obligation or responsibility with respect to any Product that (i) has been modified or altered without ARECONT VISION COSTAR’s written authorization; (ii) has not been used in accordance with applicable documentation; (iii) has been subjected to unusual stress, neglect, misuse, abuse, improper storage, testing or connection; or unauthorized repair; or (iv) is no longer covered under the Warranty Period. ARECONT VISION COSTAR MAKE NO WARRANTIES OR CONDITIONS, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, OTHER THAN THE EXPRESS LIMITED WARRANTIES MADE BY ARECONT VISION COSTAR ABOVE, AND ARECONT VISION COSTAR HEREBY SPECIFICALLY DISCLAIMS ALL OTHER EXPRESS, STATUTORY AND IMPLIED WARRANTIES AND CONDITIONS, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT AND THE IMPLIED CONDITION OF SATISFACTORY QUALITY. ALL LICENSED PROGRAMS ARE LICENSED ON AN “AS IS” BASIS WITHOUT WARRANTY. ARECONT VISION COSTAR DOES NOT WARRANT THAT (I) THE OPERATION OF THE PRODUCTS OR PARTS WILL BE UNINTERRUPTED OR ERROR FREE; (II) THE PRODUCTS OR PARTS AND DOCUMENTATION WILL MEET THE END USERS’ REQUIREMENTS; (III) THE PRODUCTS OR PARTS WILL OPERATE IN COMBINATIONS AND CONFIGURATIONS SELECTED BY THE END USER; OTHER THAN COMBINATIONS AND CONFIGURATIONS WITH PARTS OR OTHER PRODUCTS AUTHORIZED BY ARECONT VISION COSTAR OR (IV) THAT ALL LICENSED PROGRAM ERRORS WILL BE CORRECTED.

The Contera IP® Omni LX Remote Setup (RS) motors are meant to be used for setup purposes or moving to preset positions no more than one time per day. Excessive use will void the warranty. This camera is not meant to be used as a traditional PTZ (pan tilt zoom) speed dome camera.

For RMA and Advance Replacement information visit http://www.avcostar.com

Camera Overview

The ConteraIP® Omni LX Remote Setup (RS) is an industry-game-changing first-of-its-kind omni-directional, remote-configurable, multi-sensor, multi-megapixel camera built to provide outstanding high-resolution video coverage for a wide range of applications. The unmatched coverage and capabilities of the ConteraIP® Omni LX RS provides organizations of all sizes the flexibility to deploy a surveillance camera system that truly matches their current and future requirements for complete situational awareness.

ConteraIP® Omni LX RS is available with a choice of 8 or 20-megapixel (MP) resolutions. The number of cameras required for a project can be dramatically reduced with a single ConteraIP® Omni LX RS because of its four customizable remote sensor gimbals which allow fast and easy installation. You simply install the hinged mounting plate, connect the PoE+ (Power-over-Ethernet) IP cable, and then remotely configure the camera. When configuring the camera, you can select a “Preset” choice for 180°, 270°, or 360° views. Or, use the intuitive interface to remotely pan, tilt, zoom and focus each sensor. Also, two custom presets created by the user can be saved to memory. The camera is integrated with the industry’s leading VMS/NVR platforms, and the microSD card slot supports up to 256GB of storage capacity for convenient onboard storage.

ConteraIP® Omni LX RS is ideal for applications with normal or challenging lighting conditions. The Omni combines a day/night mechanical IR cut filter for the highest image quality at any time of day. For clear color images in low-light, NightView™ offers strong low-light sensitivity for capturing details in extremely poor-lit scenes. Power can be supplied via a single PoE+ (802.3at) compliant network cable or via a 12–48V DC/24V AC power supply.

ConteraIP® Omni LX RS is designed for demanding environments. Certified with rigorous dust and water tests, the camera carries an IP66 rating. The rugged dome housing is IK-10 rated to withstand the equivalent of 55 kg (120 lbs) of force for vandal-prone applications.

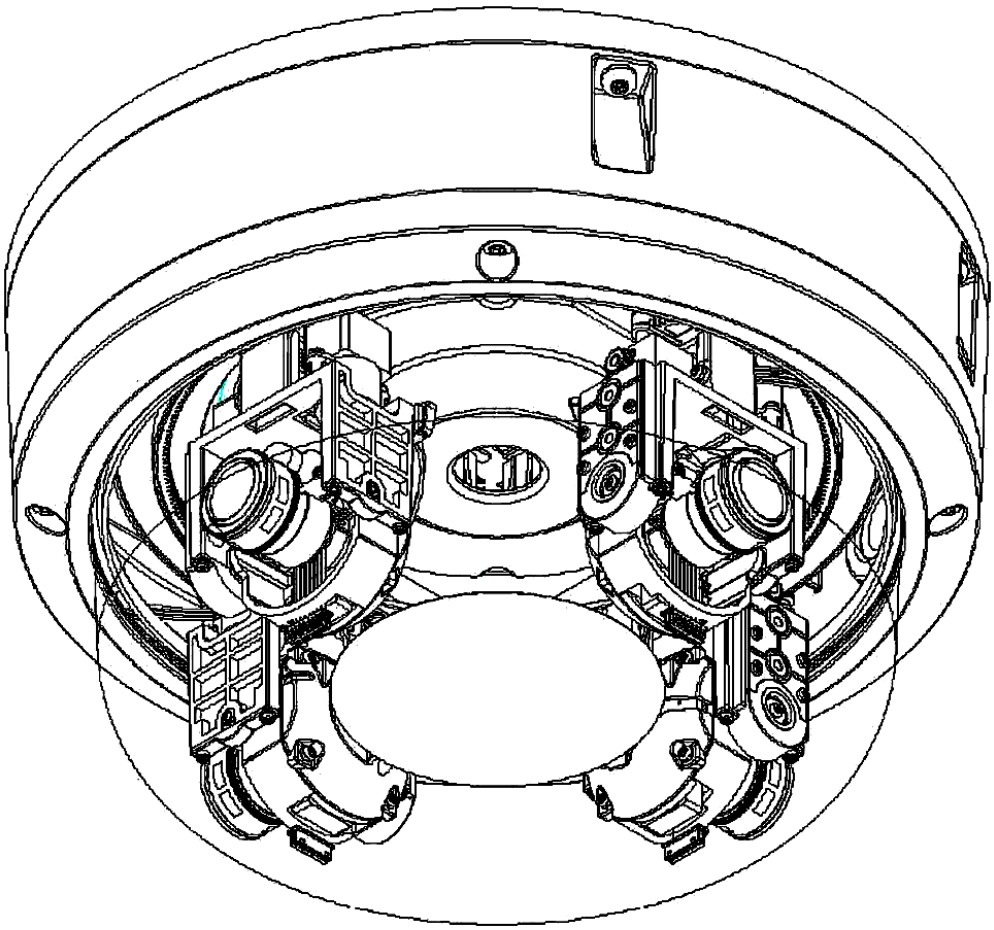
Under Vision® was the first to bring H.264 to the mainstream market and recently developed SNAPstream™ (Smart Noise Adaptation and Processing) technology for reducing bandwidth without impacting image quality. Today we are proud to offer our next generation H.265 with SNAPstream+™ smart codec capable of delivering high quality video while saving over 50% of the data rate to reduce or prevent strain on the network.

The ConteraIP® Omni LX RS is ONVIF (Open Network Video Interface Forum) Profile S, G, Q and T compliant, providing interoperability between network video products regardless of manufacturer.

Package Contents

- AV8476RS / AV20476RS

Description	QTY
AV8476RS / AV20476RS IP camera	1
Mounting Template	1
Accessory Pack	1



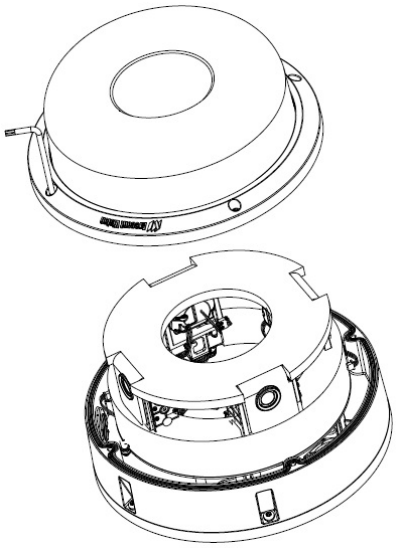
Installation

Surface Mounting

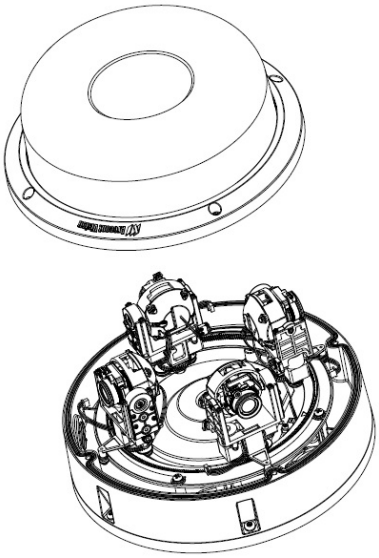
We recommend placing the ConteraIP® Omni LX RS camera directly on the hard ceiling.

Template, anchors and screws are provided for mounting the camera.

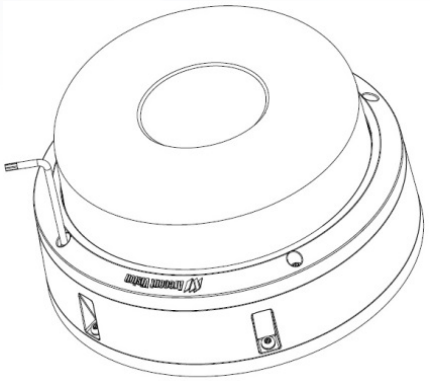
1. Determine a secure location to mount the camera.
2. Use the supplied security L-key to loosen the four screws securing the dome cover. Do not remove screws from the dome cover.



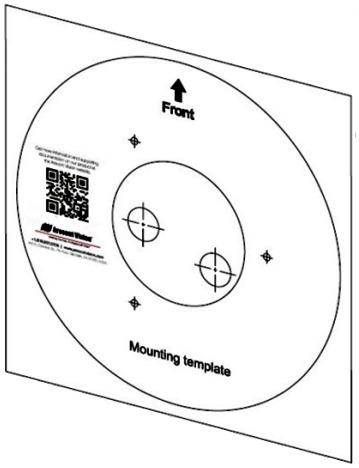
3. Remove and discard the protective foam.



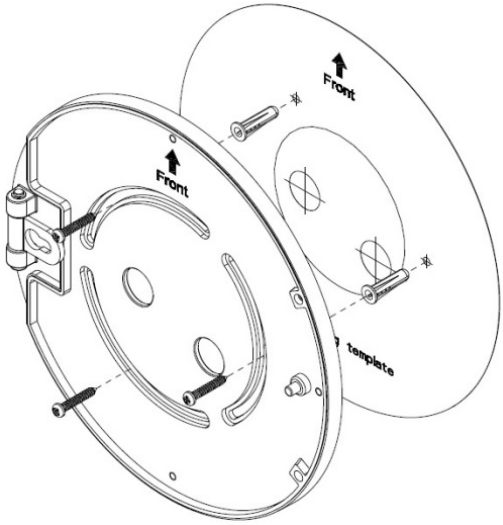
4. Reattach the dome cover to the camera.



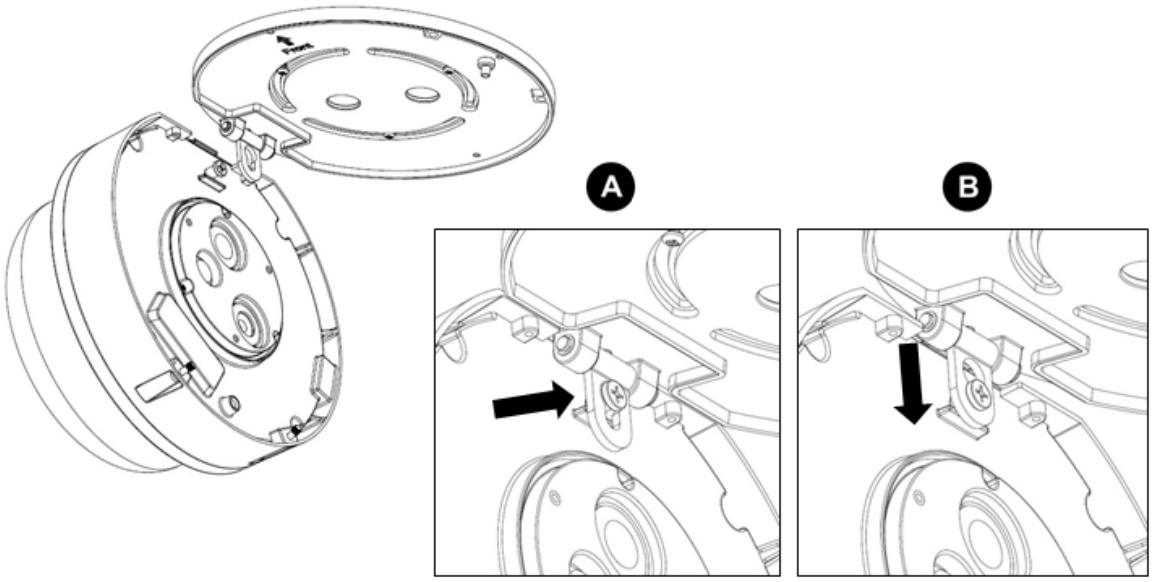
5. If the 180°, 270°, or 360° preset configurations are being used, orient the camera such that the arrow denoting the front of the camera is pointing towards the center of the desired field of view.



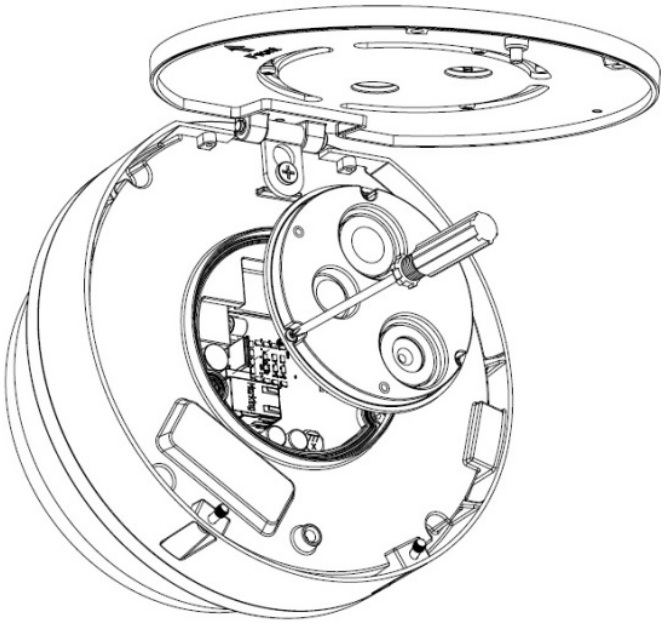
6. Attach the mounting plate to the ceiling using the supplied mounting hardware.



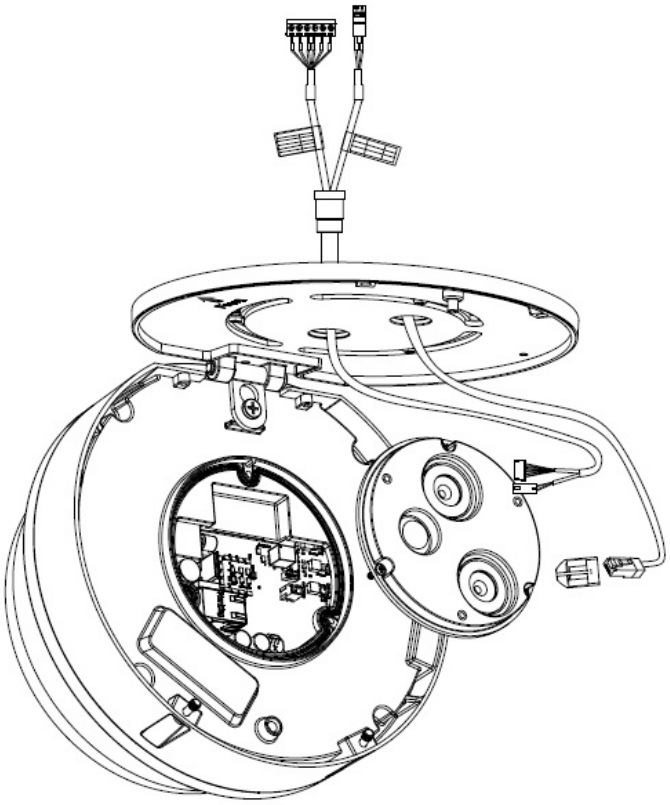
7. Attach the camera to the mounting plate as shown in the image below. The camera will “hang” from the hinge once properly attached.



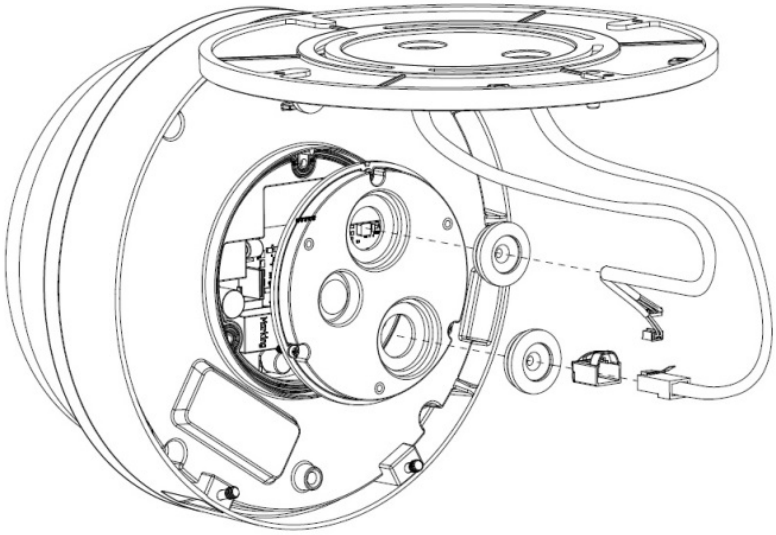
8. Use a Phillips head screwdriver to loosen the three (3) screws on main housing cover to access the network port.

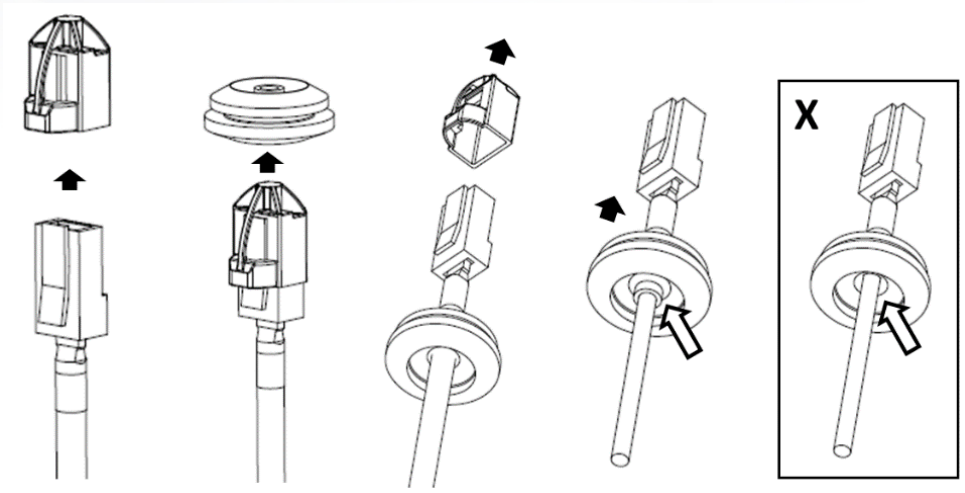


9. Run the Ethernet Cable (and the supplied power cable, I/O cable if necessary) through the cable entry holes on the mounting plate.



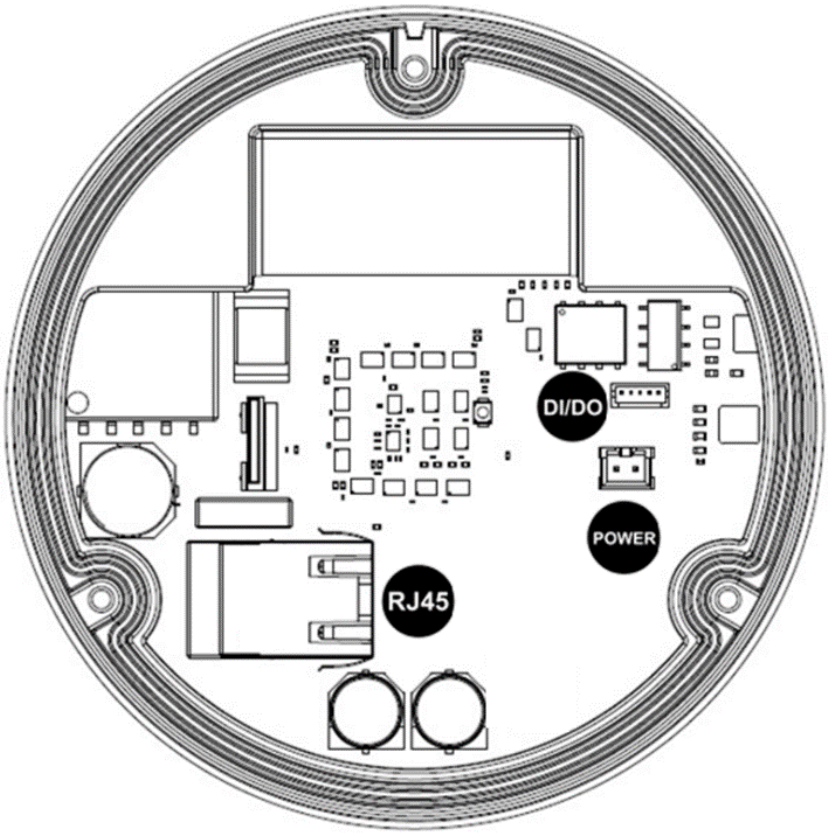
10. Prepare the network cable (and the supplied power cable, I/O cable if necessary) with the supplied grommets by using the insertion tool or terminate the RJ-45 connector to the cable after passing through the grommet.



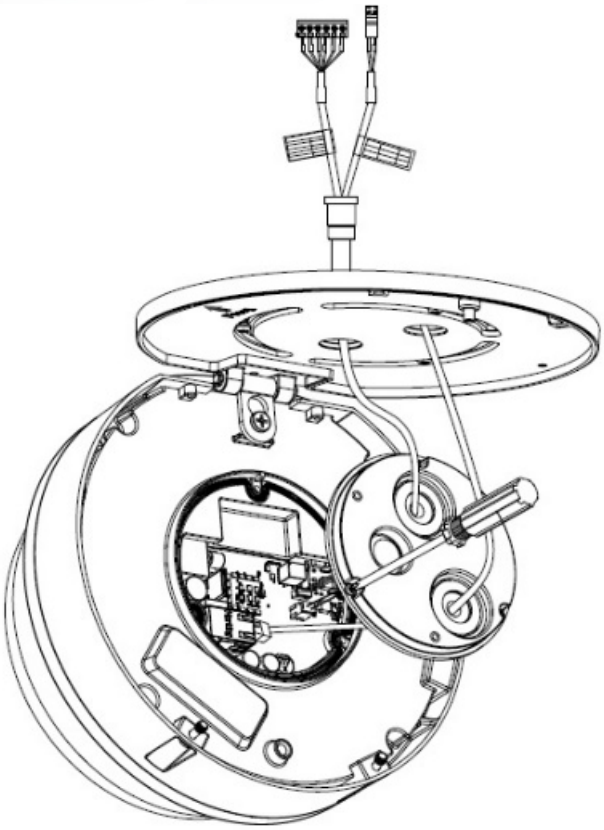


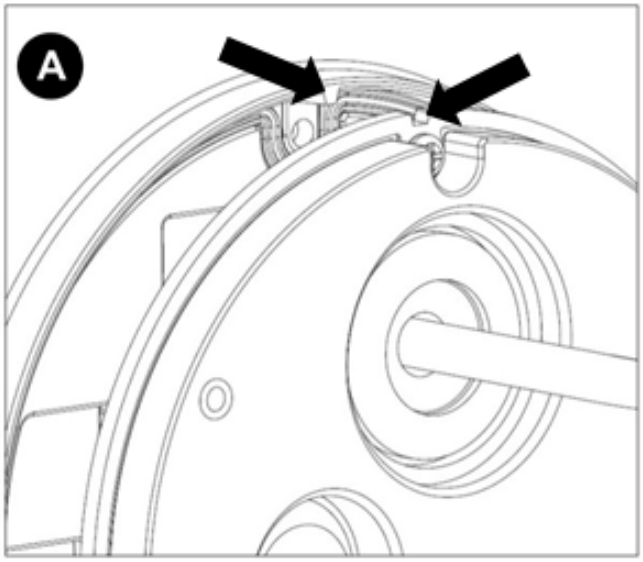
NOTE: The supplied grommet is required when mounting the camera outdoors or in a wet environment. Ensure the grommet properly seats flush with the camera housing to create a water-tight seal.

11. Connect the network cable (and the supplied power cable, I/O cable if necessary) to the corresponding connectors inside the camera.



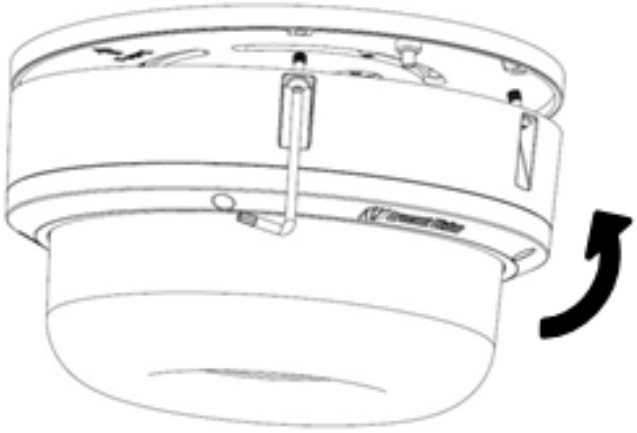
12. Align the holes on main housing cover with the holes on mounting plate, and then install the main housing cover back on the camera.



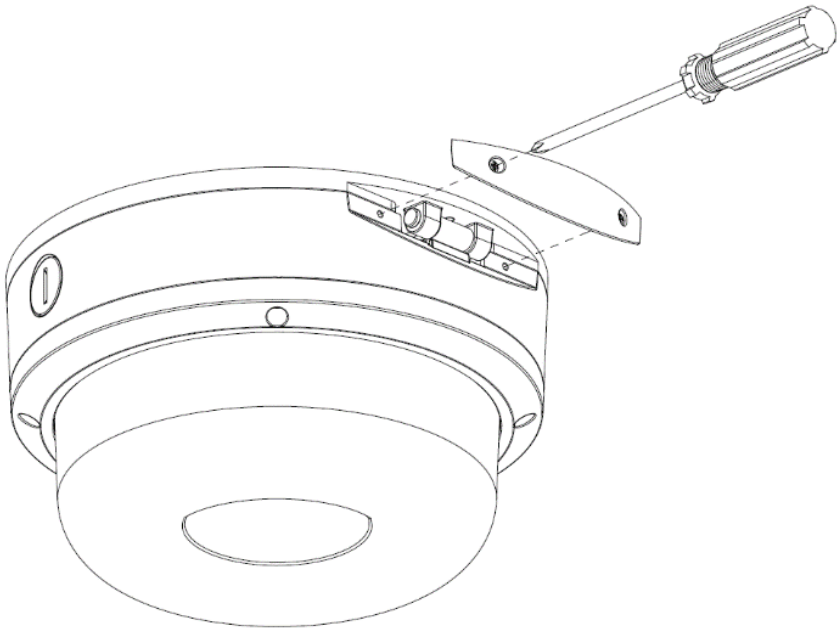


NOTE: If using the side connection of the NPT port, you need to install the supplied grommet without a hole on the main housing cover, and then remove the cap covering the side entrance, otherwise; leave the cap in place. If using the NPT port, always use Teflon tape around the threads to ensure proper sealing. The conduit fits ¾" NPT standard.

13. Use the supplied security L-key to attach the camera to the mounting plate.



14. Swing the camera up into place, and then use a Phillips head screwdriver to the camera to the mount plate. Use caution to not bend or pinch the cables during this step.
15. Secure the cover plate as shown in the image below.



16. Remove the protective film at the end to avoid leaving fingerprints, scratches, or any damage on the dome cover during the installation.

NOTE: To configure the camera, reference the camera discovery, set-up, and configuration section.

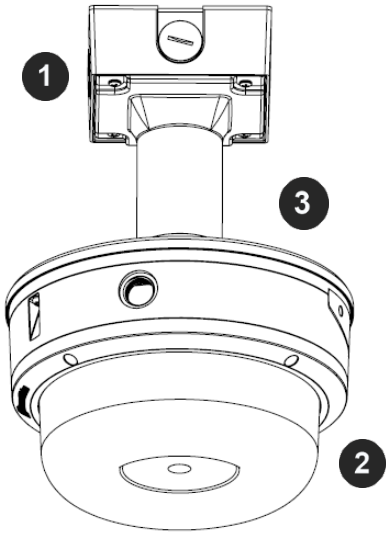
CAUTION!

The captive screws must be used to properly secure the dome cover and camera housing. Failure to use the captive fastener may result in serious injury. When mounting the dome cover to the camera housing, ensure that the gasket is properly seated and not folded. Failure to do so may result in water and dust ingress. Water damage from improper installation is not covered by the warranty!

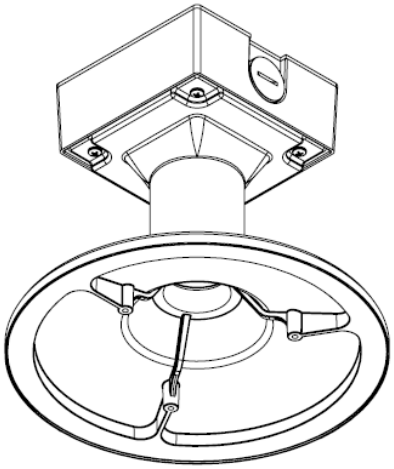
Pendant Mount

Reference #	Pendant Mount Components Required
1	Pendant mount (AV-PMJB-W) with an integrated junction box
2	ConteraIP® Omni LX RS camera
3	CORS-CAP-W mounting cap

For a proper pendant mount installation, the AV-PMJB-W pendant mount and CORS-CAP-W mounting cap are required (sold separately).

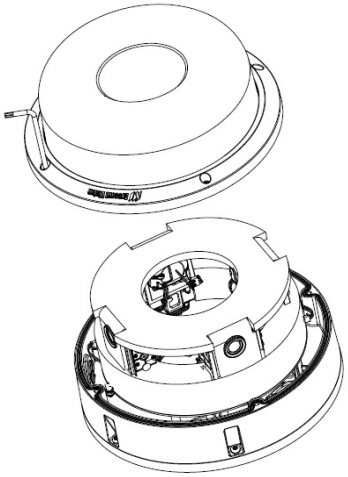


1. Determine a proper location to place the ConteraIP® Omni LX RS camera.
2. Use the mounting template, and prepare the mounting provisions.
3. Connect CORS-CAP-W, pendant pole and mount together.

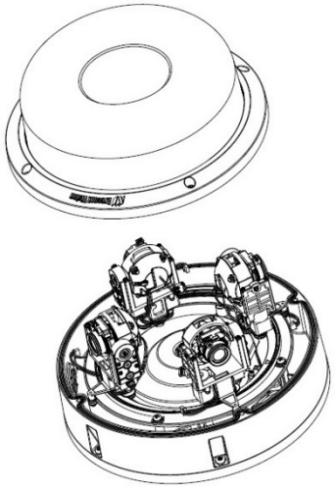


NOTE: The thread size of top shield, pendant pole and mount is 1.5” NPT.

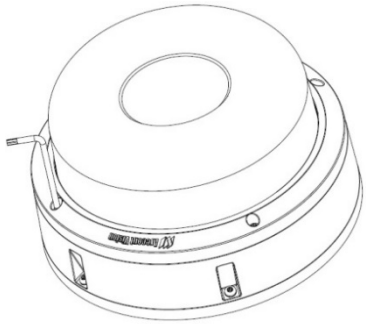
4. Attach the pendant mount to the ceiling using the 4 wood screws are provided for mounting or other optional hardware.
5. Run the ethernet cable and outside power cable (if necessary) through the rubber gasket which is supplied through the pendant mount. Ensure the gasket is sealed properly.
6. Use the L-key to loosen the four torx-in screws which are provided to secure the dome cover.



7. Remove the dome cover and the protective foam in the middle. Do not remove the torx-in screws from the dome cover.

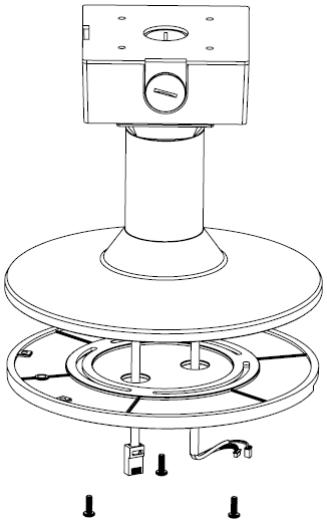


8. Reattach the dome cover to the camera.



9. If the user chooses to use the configuration presets (180°, 270°, or 360°) for adjusting the arrow on the template towards to the center of desired field of view. This will create the same center for the field of view for the camera.

10. Attach the mounting plate to the CORS-CAP-W with the screws which are supplied.



11. Follow the same steps as Surface Mount Installation to complete the installation.

To configure the camera, reference the Camera Discovery, Set-up and Configuration section.

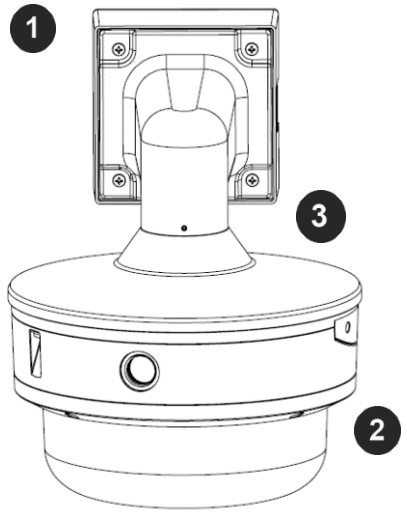
CAUTION!

The captive screws must be used to properly secure the dome cover and camera housing. Failure to use the captive fastener may result in serious injury. When mounting the dome cover to the camera housing, ensure that the gasket is properly seated and not folded. Failure to do so may result in water and dust ingress. Water damage from improper installation is not covered by the warranty!

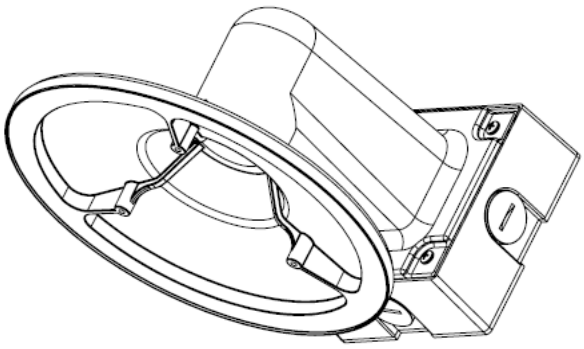
Wall Mount

Reference #	Required Wall Mount Components
1	Wall mount (AV-WMJB-W) with an integrated junction box
2	ConteraIP® Omni LX RS camera
3	CORS-CAP-W mounting cap

For a proper wall mount installation, the AV-WMJB-W wall mount and CORS-CAP-W wall mount cap are required (sold separately).



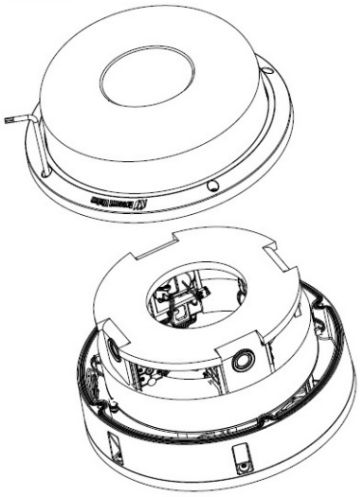
1. Determine a proper location to place the ConteraIP® Omni LX RS camera.
2. Use the mounting template, and then prepare the mounting provisions.
3. Connect CORS-CAP-W cap and wall mount together.



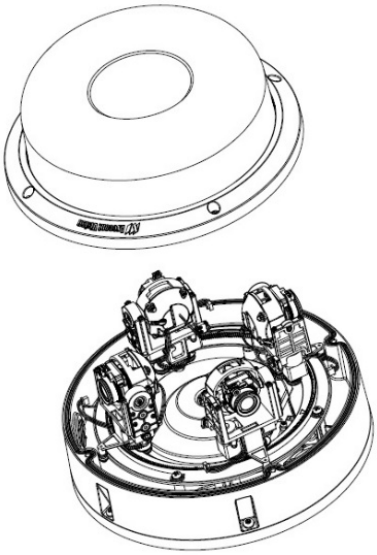
NOTE: The thread size is 1.5” NPT for Top shield, Pendant pole and Mount.

4. Attach the wall mount to the wall by using the four drywall screws which are provided or any optional hardware suitable for the mounting surface.

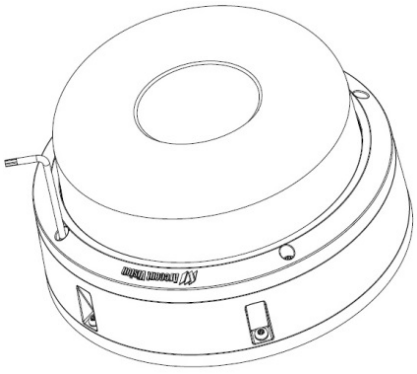
5. Run the ethernet cable and outside power cable (if necessary) through the rubber gasket which is supplied, then let them pass through the wall mount. Ensure the gasket is sealed properly.
6. Use the L-key to loosen the four torx-in screws which are provided to secure the dome cover.



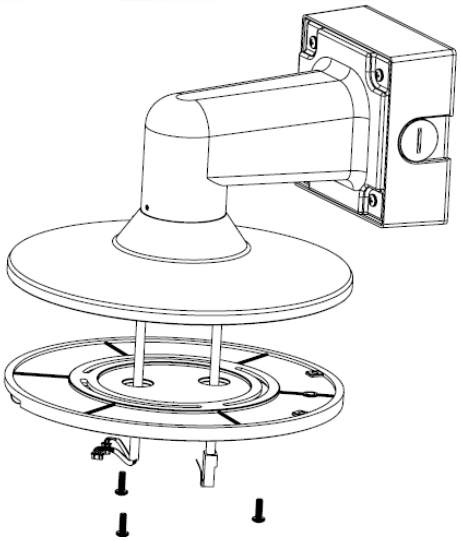
7. Remove the dome cover and the protective foam in the middle. Do not remove the torx-in screws from the dome cover.



8. Reattach the dome cover to the camera.



9. Attach the mounting plate to the CORS-CAP-W with the screws supplied.



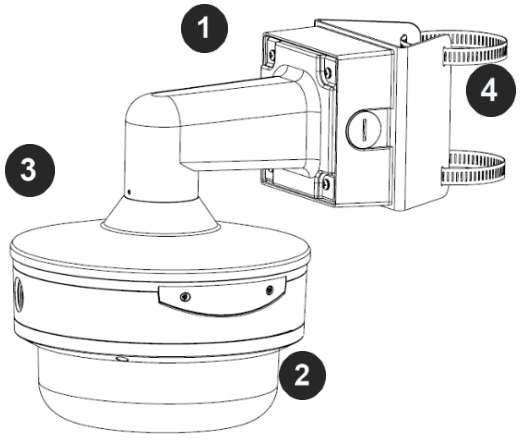
10. Follow the same steps as Surface Mount Installation to complete the installation.

CAUTION!

The captive screws must be used to properly secure the dome cover and camera housing. Failure to use the captive fastener may result in serious injury. When mounting the dome cover to the camera housing, ensure that the gasket is properly seated and not folded. Failure to do so may result in water and dust ingress. Water damage from improper installation is not covered by the warranty!

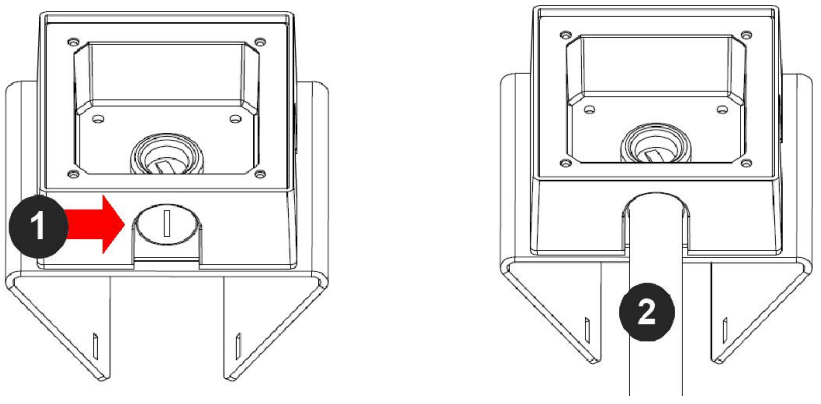
Pole Mount

Reference #	Required Pole Mount Components
1	Wall mount (AV-WMJB-W) with integrated junction box
2	ConteraIP® Omni LX RS camera
3	CORS-CAP-W mounting cap
4	AV-PMA-W pole mount adapter



For a pole mount installation, AV-WMJB-W wall mount, AV-PMA-W pole mount, and CORS-CAP-W mount cap are required (sold separately).

1. Use the mounting template, and then prepare the mounting provisions.
2. Connect the wall mount cap and wall mount together.
3. Attach the Junction Box Adapter to the Pole Mount Adapter.



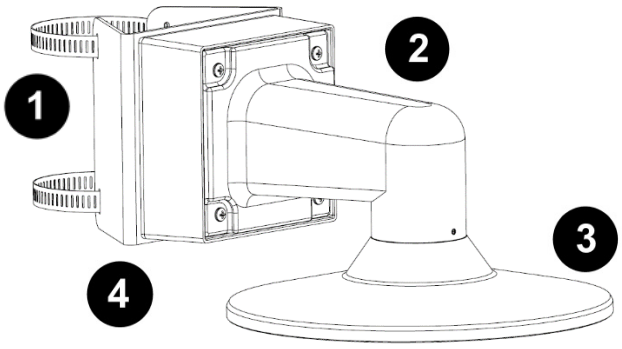
4. Remove the conduit plug on the junction box adapter, then connect ¾" NPT conduit to the junction box adapter.

Reference #	Description
1	Remove conduit plug
2	Connect ¾" NPT conduit to junction box adapter (Recommended: use of waterproof tape)

NOTE: Use silicon or water pipe seal tape to make sure there is no water leakage between conduit pipe and junction box adapter.

5. Run the ethernet cable and outside power cable (if necessary) through the rubber gasket which is supplied, then pass through the Junction Box Adapter and AV-WMJB-W, Wall Mount Adapter. Ensure the gasket is sealed properly.

6. Attach the Wall Mount Adapter (AV-WMJB-W) to the Pole Mount Adapter (AV-PMA-W) as shown below.



Reference #	Description
1	Steel straps with compression screws
2	AV-WMJB-W wall mount
3	CORS-CAP-W mount cap
4	AV-PMA-W pole mount
5	Apply Teflon waterproof tape to the thread of ¾" NPT pipe to avoid water leakage

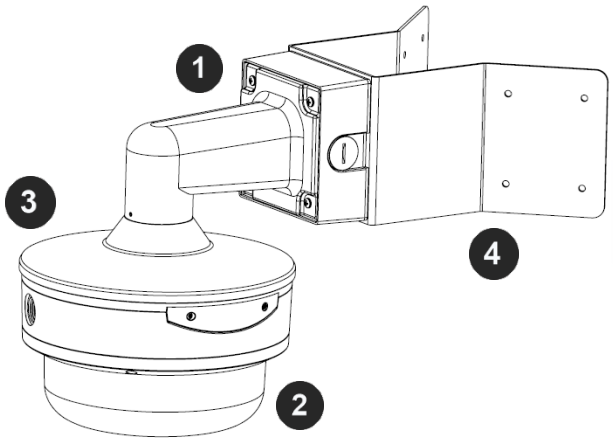
7. Use two Steel Straps which are supplied to attach the Pole Mount Adapter to the pole and tighten the compression screws.

8. Refer to the Wall Mount section for attaching the camera to the Wall Mount Adapter (AV-WMJB-W).

9. To configure the camera, refer to the Camera Discovery, Set-up and Configuration section.

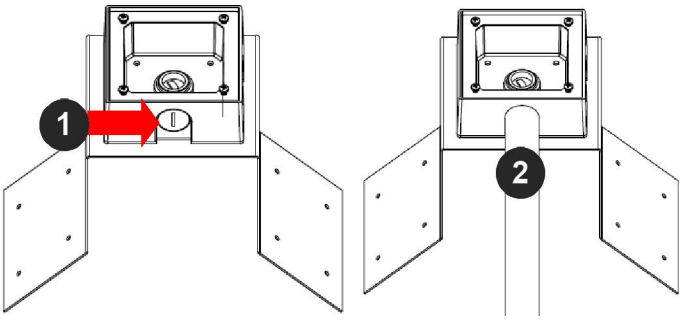
Corner Mount

Reference #	Required Corner Mount Components
1	Wall mount (AV-WMJB-W) with an integrated junction box
2	ConteraIP® Omni LX RS camera
3	CORS-CAP-W mounting cap
4	AV-CRMA-W corner mount adapter



For a corner mount installation, the AV-WMJB-W wall mount, AV-CRMA-W corner mount, and CORS-CAP-W mount cap are required (sold separately).

1. Use the mounting template and prepare the mounting provisions.
2. Connect the wall mount and the wall mount cap together.
3. Attach the AV-JBA-W Junction Box Adapter to the Corner Mount Adapter as shown below.



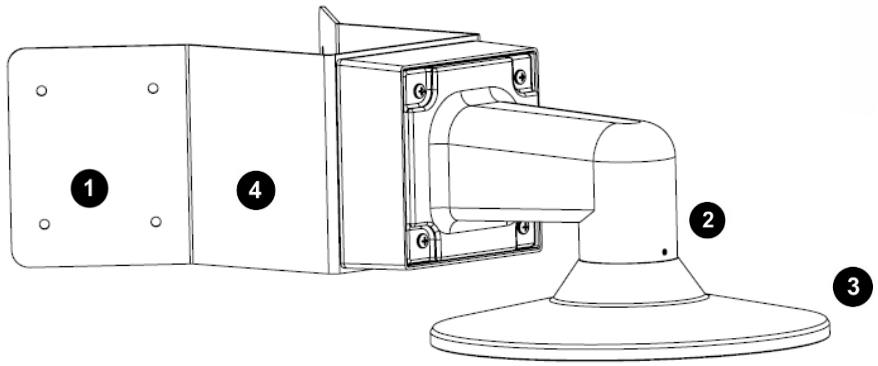
4. Remove the conduit plug from the junction box adapter, then connect ¾” NPT conduit to the junction box adapter as shown above.

Reference #	Description
1	Remove the conduit plug.
2	Connect ¾” NPT conduit to junction box adapter (ensure to use the waterproof tape).

NOTE: Use silicon or water pipe seal tape to make sure there is no water leakage between conduit pipe and junction box adapter.

5. Run the ethernet cable and outside power cable (if necessary) through the rubber gasket which is supplied, then pass through the Junction Box Adapter and AV-WMJB-W, Wall Mount Adapter. Ensure the gasket is sealed properly.

6. Attach the Wall Mount Adapter (AV-WMJB-W) to the Corner Mount Adapter (AV-CRMA-W) as shown below.



Reference #	Description
1	Attach corner mount adapter to an exterior 90-degree corner wall
2	AV-WMJB-W wall mount
3	CORS-CAP-W mount cap
5	AV-CRMA-W corner mount adapter
6	Apply Teflon waterproof tape to the thread of ¾” NPT pipe to avoid water leakage

7. Use the provided screws or other hardware to attach the Corner Mount Adapter on an exterior 90-degree corner wall.

8. To attach the camera on the Wall Mount Adapter (AV-WMJB-W), refer to the Wall Mount section.

To configure the camera, refer to the Camera Discovery, Set-up and Configuration section.

CAUTION!

The captive screws must be used to properly secure the dome cover and camera housing. Failure to use the captive fastener may result in serious injury. When mounting the dome cover to the camera housing, ensure that the gasket is properly seated and not folded. Failure to do so may result in water and dust ingress. Water damage from improper installation is not covered by the warranty!

Camera Power Up

CAUTION!

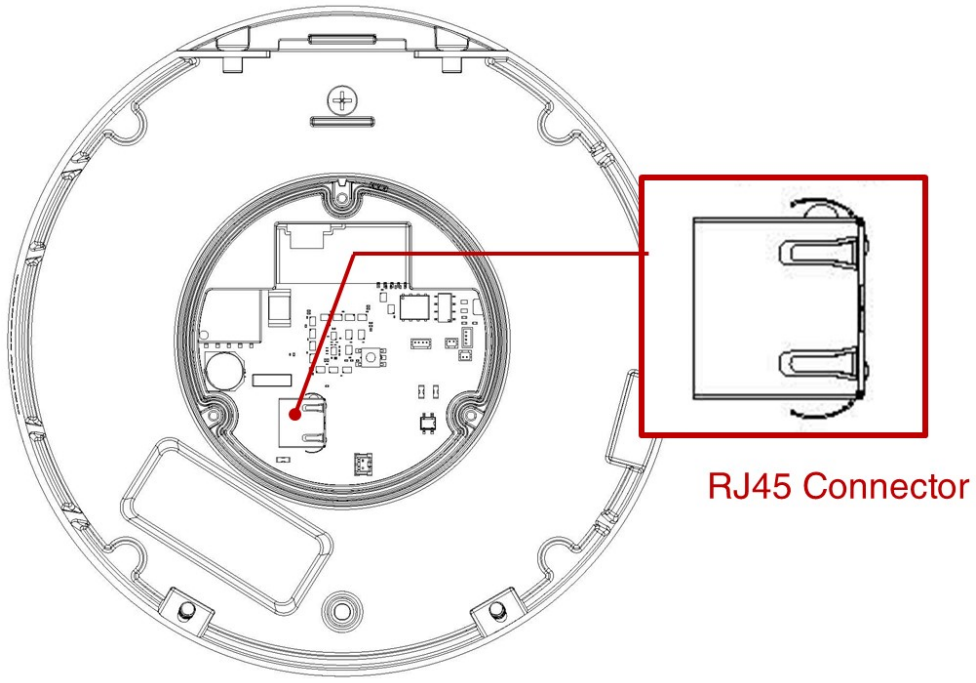
This product should be installed by a qualified service technician in accordance with the National Electrical Code (NEC 800 CEC Section 60) or applicable local code. Wiring methods should be in accordance with the National Electrical Code/NFPA 70/ANSI, also with all local codes and authorities having jurisdiction. Wiring should be UL Listed and/or Recognized wire suitable for the application.

CAUTION!

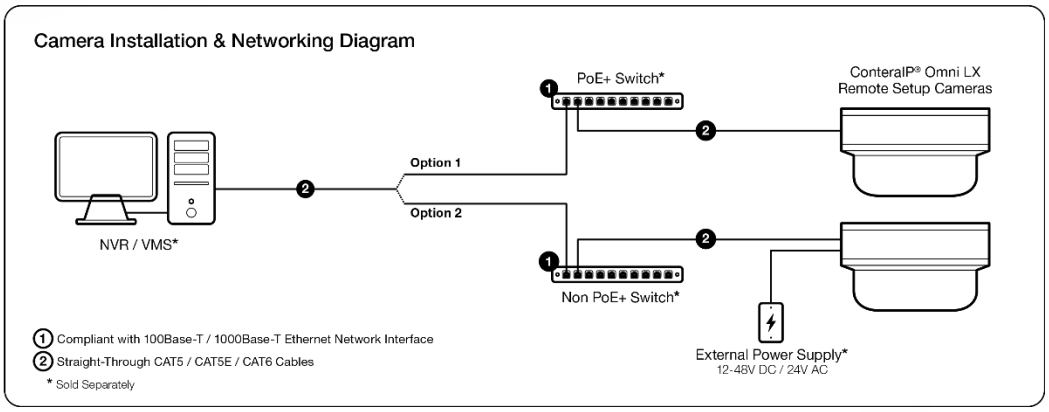
Make the connections inside a watertight compartment. Isolate unused power wires individually. After connections are made, ensure that the watertight compartment is tightly closed and cables and conduits are properly sealed to prevent ingress of water.

1. Connect the camera to a PoE+ port on 1000Mbps network PoE+ switch using an Ethernet cable.

2. If the camera is powered by an external power supply12V DC or 24V AC must be supplied.

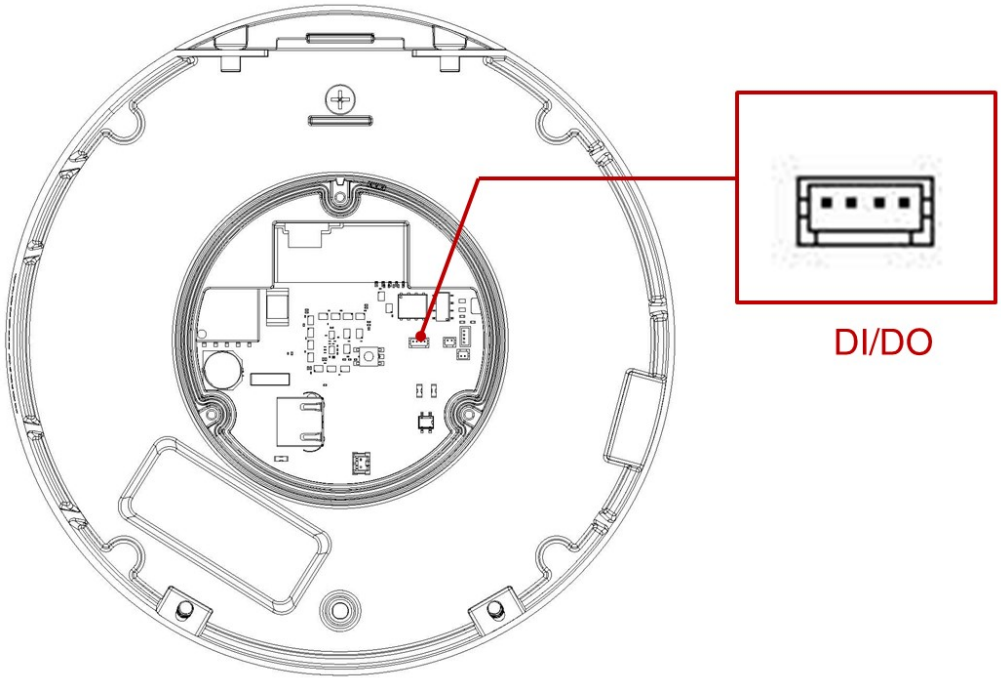


3. Connect the PoE+ switch to your computer's network port by using an ethernet cable.



LED	Status	Description
Green	Quick Flashing	Link has been established
	Slow Flashing	Normal operation
None	None	No Connection

Alarm I/O Functions



Connect the Alarm In (DI) connector to the alarm input sensor, and then connect the Alarm Out (DO) connector to the alarm output signal.
To avoid any damage, please follow the specification of the part as below:

Alarm In (Wet Contact)		Alarm Out (Wet Contact)	
3.5-12 VDC	50mA (max)	0-30 VDC	50mA (max)

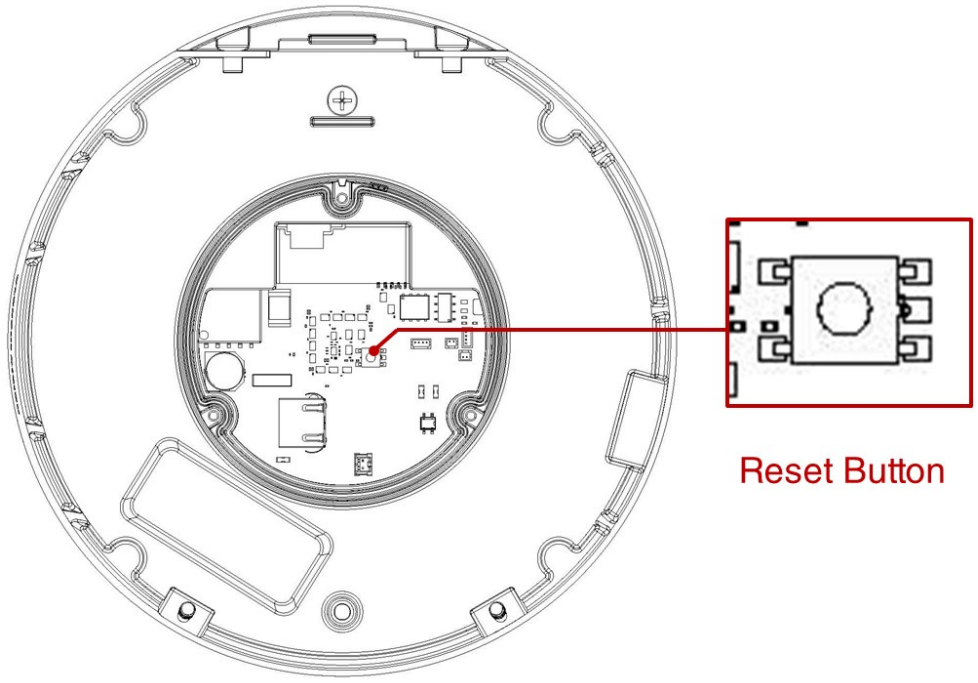
Reset to Factory Default

1. Press and hold the reset button for 2 to 5 seconds, then release the reset button.

   This resets the camera to the factory default except for the network settings.

2. Press and hold the reset button for more than 5 seconds, then release the reset button.

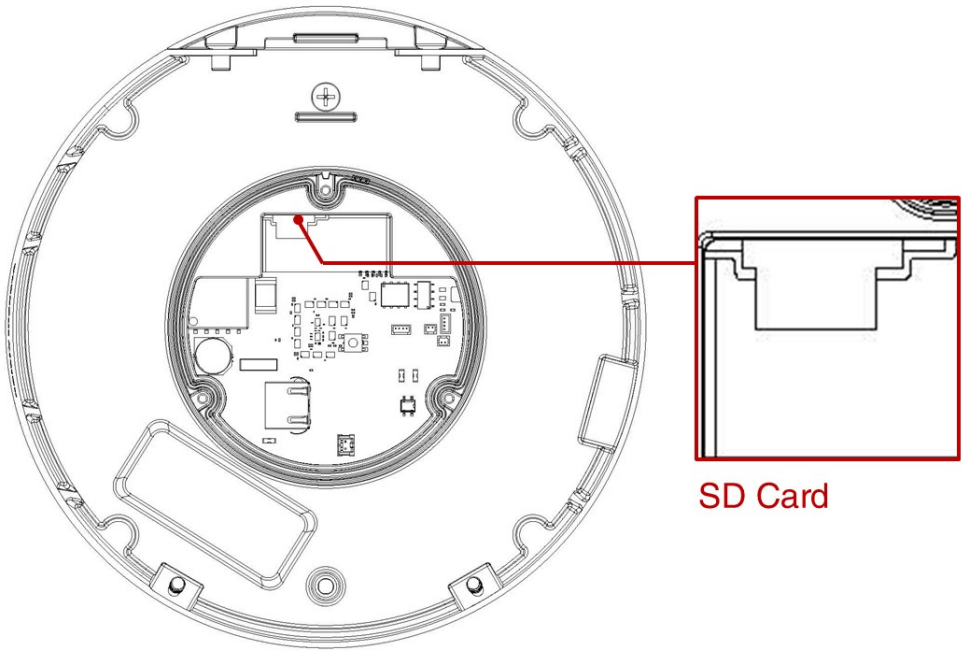
   This resets the camera to the factory default, and this resets the network settings to the factory default.



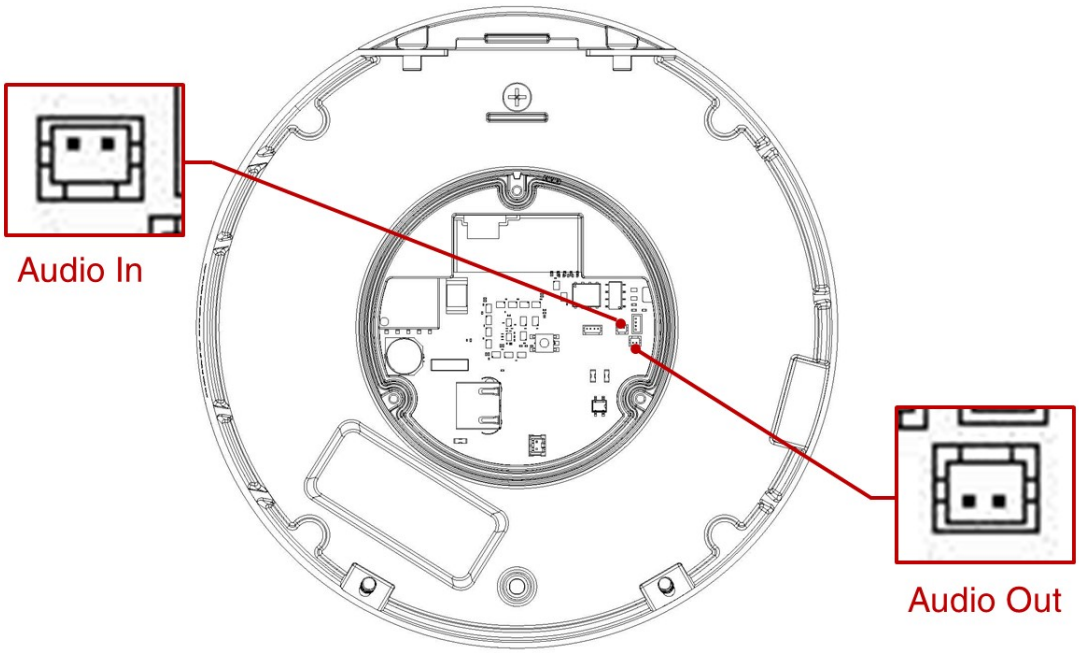
3. Also, the user can reset the camera to factory default via the camera web interface or AV IP Utility.

Audio/SD Card Info

- SD Card Slot



- Audio Connector



Camera Discovery, Setup, and Configuration

AV IP Utility is recommended for camera discovery and setup. Software can be found on the website of Arecont Vision Costar http://www.arecontvision.com/softwares.php.

The AV IP Utility can provide multiple discovery options including broadcast and multicast, check the status of a camera, change the camera settings, import and export camera settings via a .csv file, and update firmware and/or hardware from virtually anywhere with a network connection.

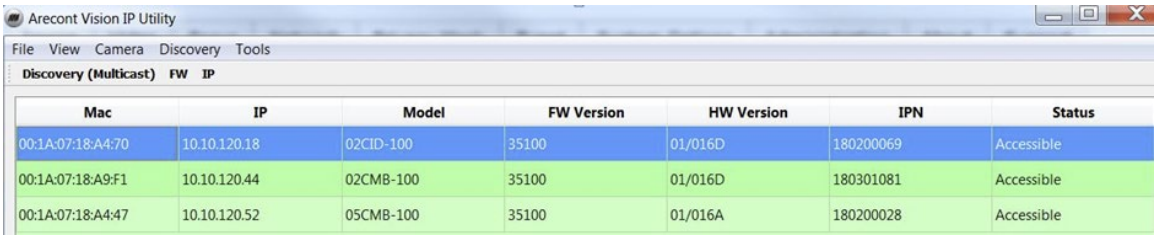
The AV IP Utility tool is efficient and convenient for mass or single camera uploads whether used for large installations that require an update to multiple settings, or smaller installations where only one camera needs to be changed

The AV IP Utility version v3.1.2x+ tool is compatible with all AV Costar ConteraIP® cameras. The user manual for the software is available on our website.

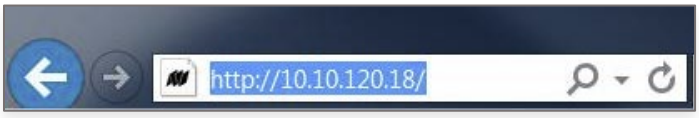
Camera Discovery

1. Locate and double click the AV IP Utility shortcut on the desktop.

2. When the AV IP Utility is launched, it will automatically search the Contera IP® cameras on the network. Also, you can manually search the camera by clicking “Discovery (Multicast)”



3. You can access the camera’s web interface by typing the camera IP address on the preferred web browser.



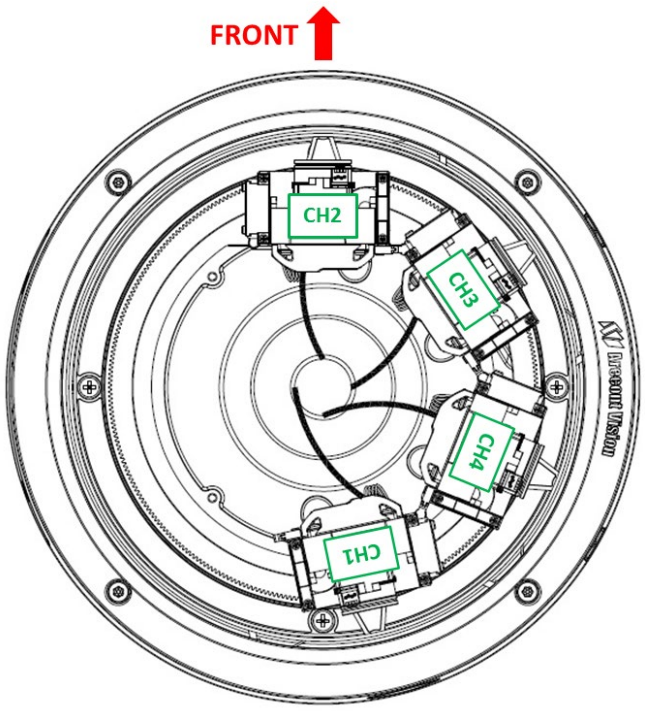
4. If there is no DHCP server present in the network, the camera will default to the following IP Address “192.168.1.168”.

Camera Preset Configurations

The Arecont Vision Costar Contera IP® Omni LX RS camera supports three (3) predifined camera preset configurations: 180 degrees, 270 degrees, and 360 degrees. Also, the camera supports two custom preset configurations.

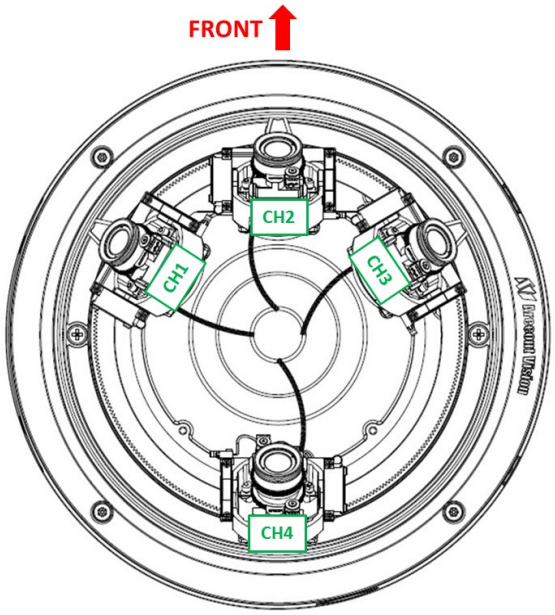
- **Home position**

  Four camera modules will move to the position as the image below. All four modules zoom out to widest angle, and tilt up to zero degree.



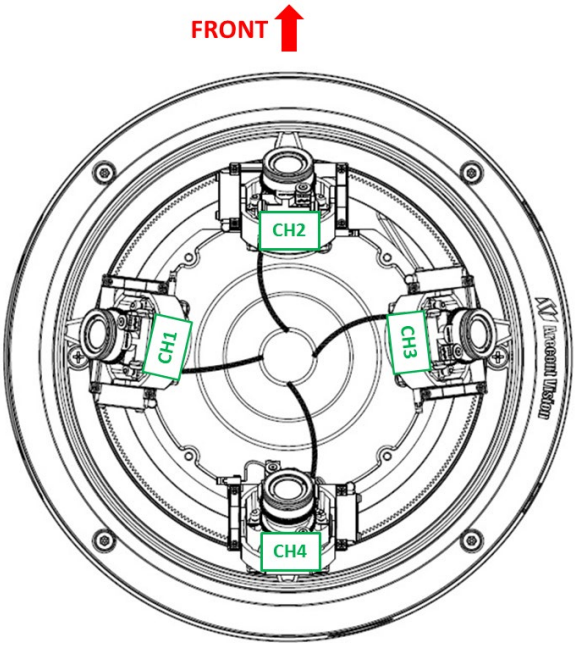
- **180 degrees preset configuration**

  Four camera modules will move to the positions as the image below. CH1/2/3 zoom in to 60 degrees H-FOV, and tilt down to 37 degrees. CH4 zooms out to widest angle, and tilt down to 135 degrees.



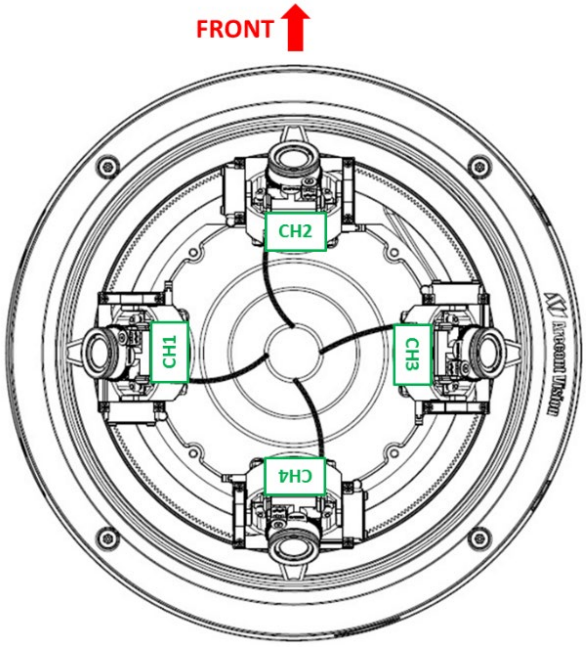
- **270 degrees preset configuration**

  Four camera modules will move to the positions as the image shown. CH1/2/3 zoom in to 90 degrees H-FOV, and tilt down to 37 degrees. CH4 zooms out to widest angle, and tilt down to 135 degrees.



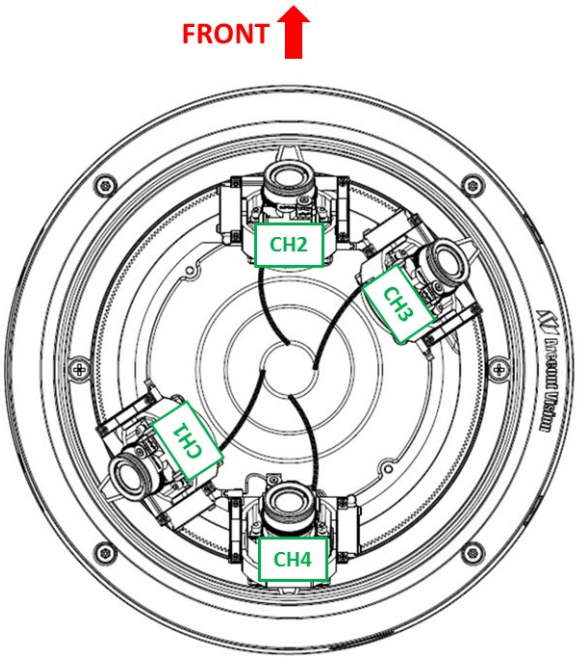
- **360 degrees preset configuration**

  Four camera modules will move to the positions as the image below. All four modules zoom in to 90 degrees H-FOV, and tilt down to 37 degrees.

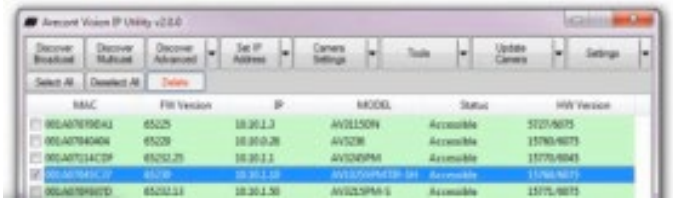


- **Custom preset configuration**

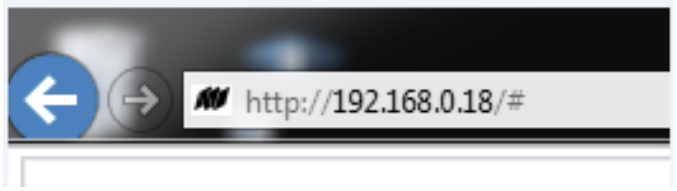
User can define custom pan/tilt/zoom positions as the image below.



1. To control the camera preset configurations via the web interface:
   a. Double click the camera within the AV IP Utility (image below).



   b. Open your preferred web browser and type the camera's IP address (displayed inthe image below)



2. Click Presets Tab

NOTE: Contera IP® Omni LX RS camera is not used as traditional high speed PTZ camera. The motorized movement of the camera gimbals is meant for setup and configuration only. Movement of the modules more than one time per day will void the warranty.

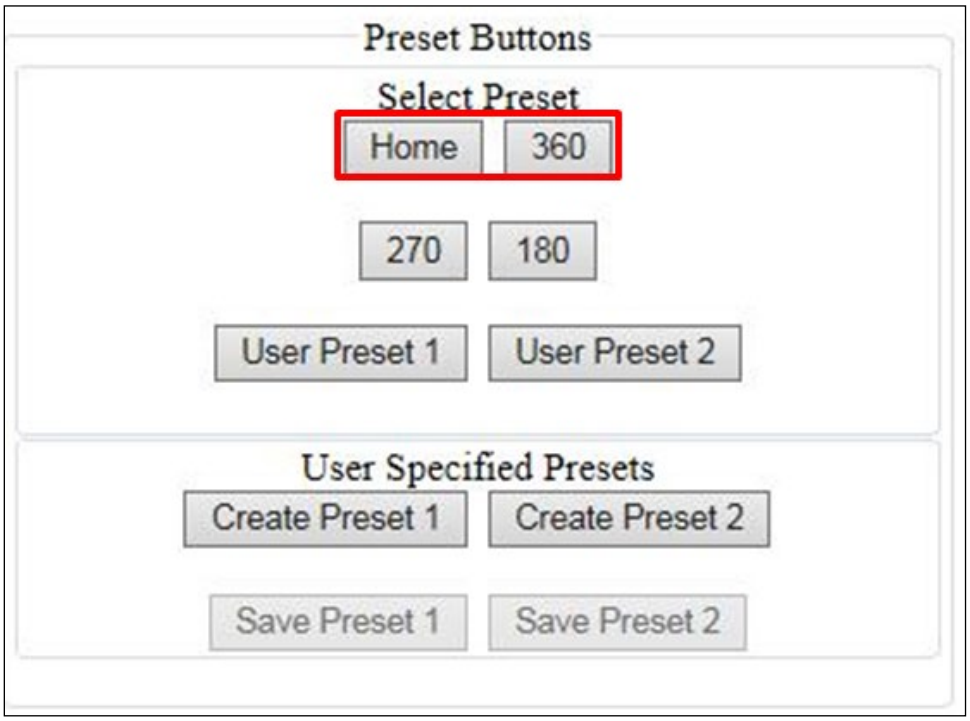
NOTE: Module CH2 will not pass the FRONT position shown on the mounting plate in order to avoid the cable routing problems.

NOTE: Modules will stop moving once they hit the module next to it during pan movement in either direction.

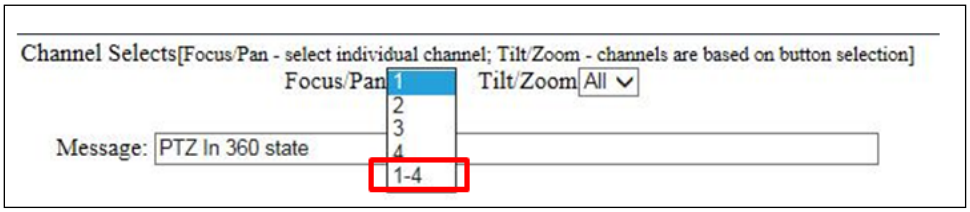
NOTE: Live video is disabled during pan/tilt adjustment.

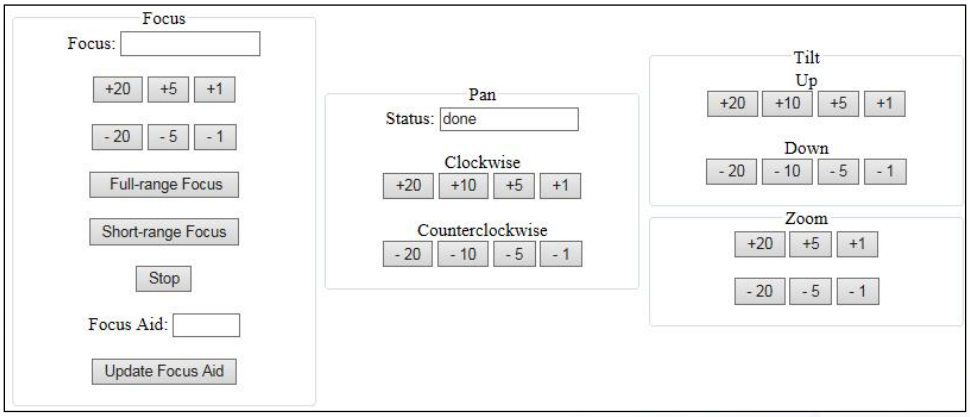
Home Position / 360 Degrees Preset Configuration

1. In the “Preset buttons” section, click “Home” or “360”.



2. To make an adjustment on all four camera modules without selecting each camera module individually; you can select “1-4” from the drop list.





3. For individual adjustment on each camera module, select the “Focus/PTZ” tab.

NOTE: ConteraIP® Omni LX RS camera is not used as traditional high speed PTZ camera. The motorized movement of the camera gimbals is meant for setup and configuration only. Movement of the modules more than one time per day will void the warranty.

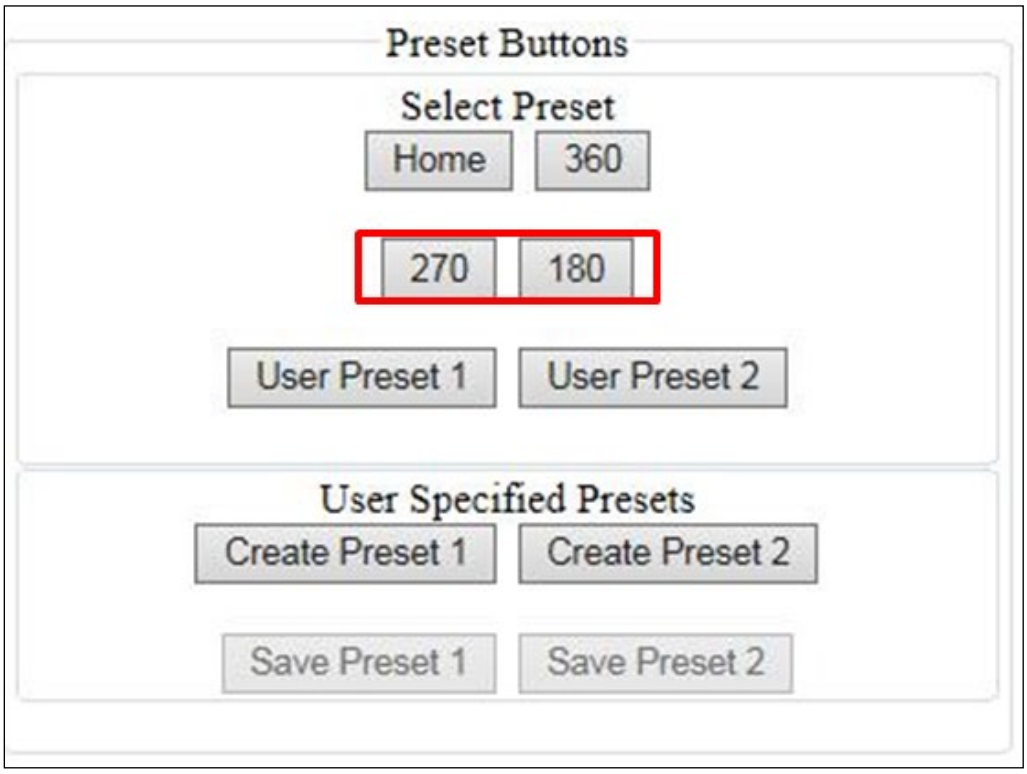
NOTE: Module CH2 will not pass the FRONT position shown on the mounting plate. This is to avoid cable routing problems.

NOTE: Modules will stop moving once they hit the neighbor module during pan movement in either direction

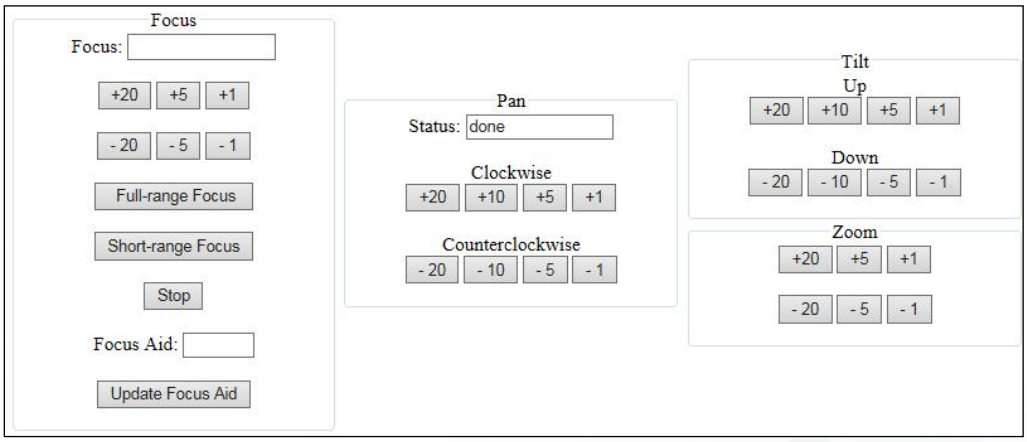
NOTE: Live video is disabled during pan/tilt adjustment.

180 / 270 Degrees Preset Configuration

1. In the “Preset buttons” section, click “180” or “270”



2. To make an adjustment to the entire panoramic configuration (without having to select each camera module individually) you can select “1/2/3” from the drop-down menu. Doing this will allow you to modify the entire panoramic configuration.



3. To individually adjust each camera module, select the “Focus/PTZ” tab.

NOTE: Contera IP® Omni LX RS camera is not used as traditional high speed PTZ camera. The motorized movement of the camera gimbals is only for setup and configuration. Movement of the modules be made more than one time per day will void the warranty.

NOTE: Module CH2 will not pass the FRONT position shown on the mounting plate. To avoid the cable routing problems.

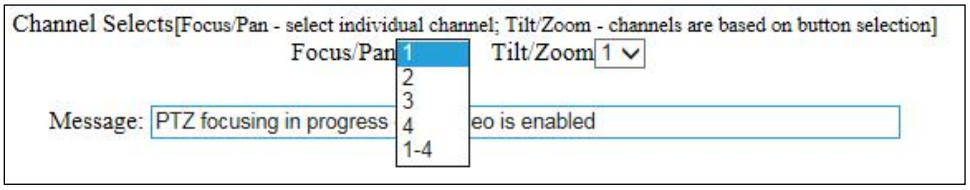
NOTE: Modules will stop moving once they hit the neighbor module during pan movement in either direction.

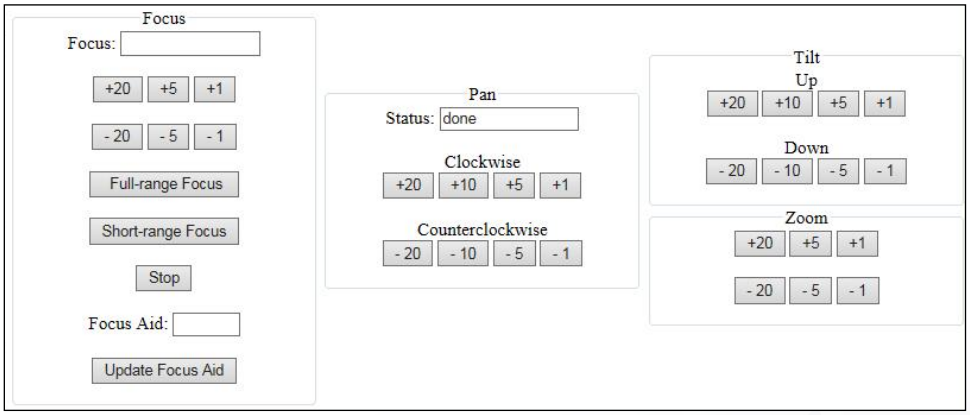
NOTE: Live video is disabled during pan/tilt adjustment.

Create Custom Preset Configuration

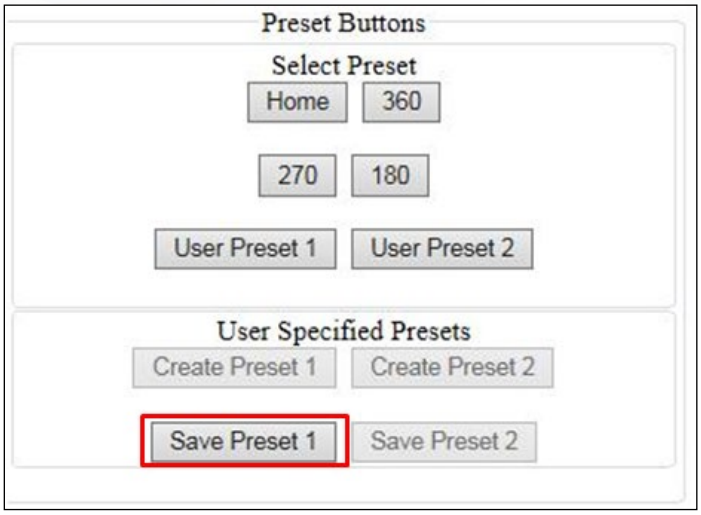
1. In “Preset buttons” section, click “Create Preset 1” or “Create Preset 2”.

2. To adjust Focus/Pan/Tilt/Zoom positions for individual module or all four modules via Channel Selects.

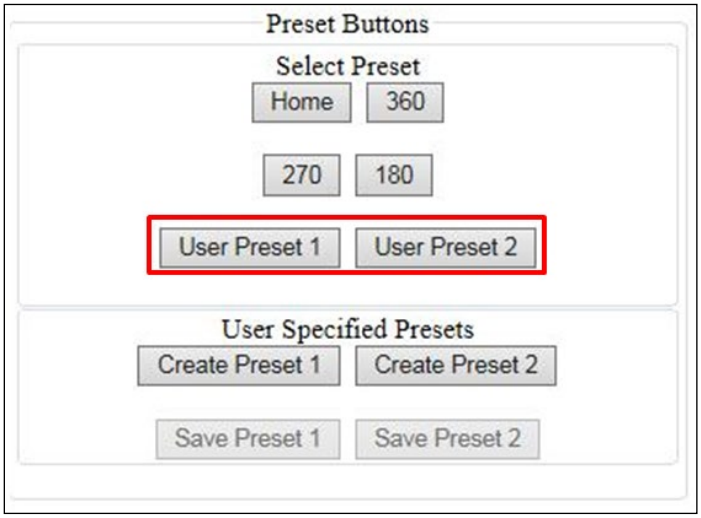




3. Once the user has a desired position for each module, click “Save Preset 1” or “Save Preset 2”.



4. Click “User Preset 1” or “User Preset 2” to get the custom preset configuration which is setup by the user.



NOTE: ConteraIP® Omni LX RS camera is not used as traditional high speed PTZ camera. The motorized movement of the camera gimbals is only for setup and configuration. Movement of the modules be made more than one time per day will void the warranty.

NOTE: Module CH2 will not pass the FRONT position shown on the mounting plate. To avoid the cable routing problems.

NOTE: Modules will stop moving once they hit the neighbor module during pan movement in either direction.

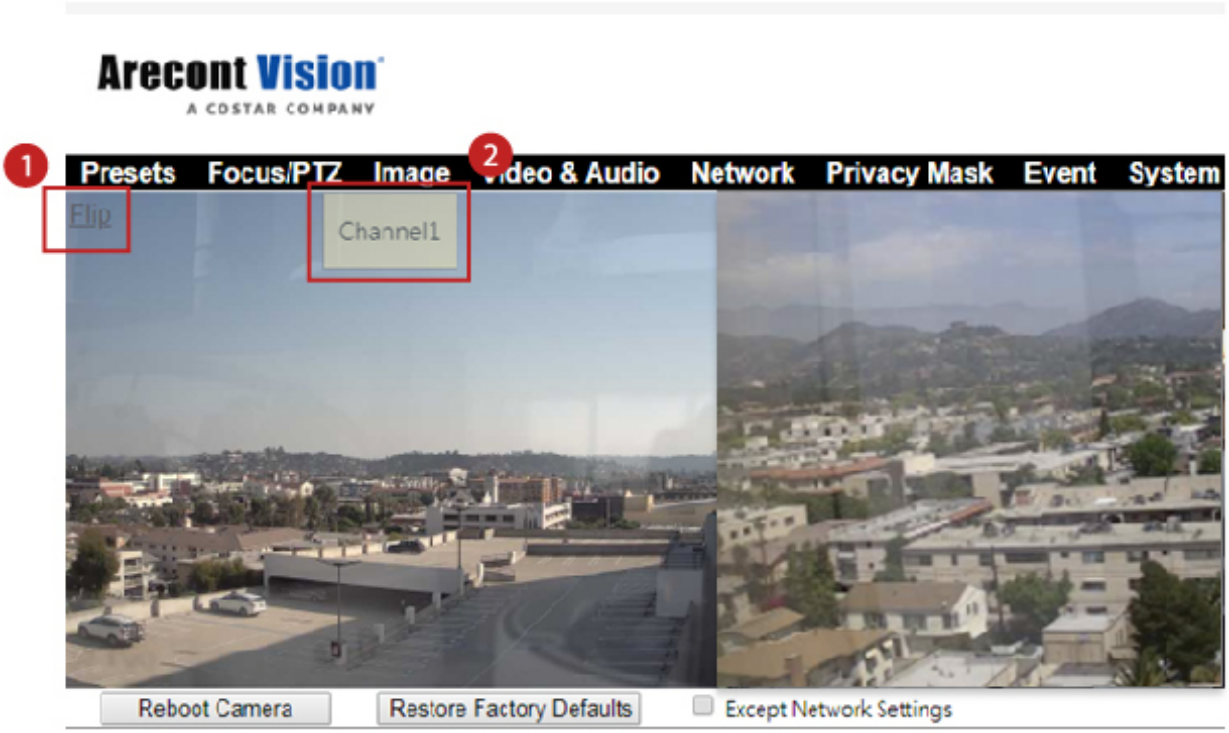
NOTE: Live video is disabled during pan/tilt adjustment.

Web Interface Navigation

The entire menu is located on the top of the web interface.
The following camera settings are available on the top of the menu in the web interface, and the user will be directed to the page that they click on the menu.

- Presets
  - Reboot Camera
  - Restore Factory Defaults
  - Preset Buttons
  - Focus
  - Pan
  - Tilt
- Focus/PTZ
  - Select Channel
  - Focus
  - Pan
  - Tilt
  - Zoom
- Image
  - Basic
    - Channel
    - Picture (Basic Image Settings)
    - Misc (AE Mode/AWB Mode)
    - WDR (Wide Dynamic Range) Mode
    - Day/Night Mode
    - Lighting Compensation Frequency
  - OSD (On-Screen Display)
    - General Setting
    - Text Overlay
  - ROI (Regions of Interest)
- Video & Audio
  - Codec
    - Channel
    - Main Stream Configuration
    - Sub Stream Configuration
    - Third Stream Configuration
  - Audio
- Network
  - Basic
    - IP Assignment

        - Ports
        - DNS
        - IPv6 Settings
    - QoS (Quality of Service)
    - UPnP (Universal Plug and Play)
    - RTSP (Real Time Streaming Protocol)
    - DDNS (Dynamic DNS)
    - SNMP (Simple Network Management Protocol)
    - SSL (Secure Sockets Layer)
    - FTP (File Transfer Protocol)
    - 802.1x
- Privacy Mask
- Event
    - Motion Detection
    - Alarm Handler
    - Digital I/O
    - Tamper Detection
    - Network Failure
    - SD Card
    - FTP Upload
    - SMTP (Simple Mail Transfer Protocol) Notification
    - Network Storage
- System
    - Maintenance
        - Camera Information
        - Camera Name
        - Firmware Upgrade
        - Download Log
        - Reboot the Camera
        - Restore Settings
    - Date/Time
- Administration
    - Administrator settings
    - Viewer Management
- Support

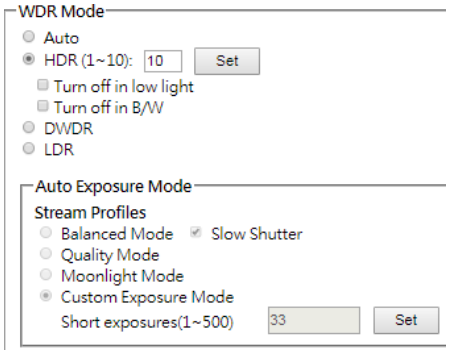


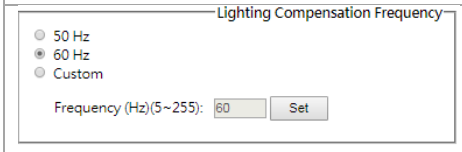
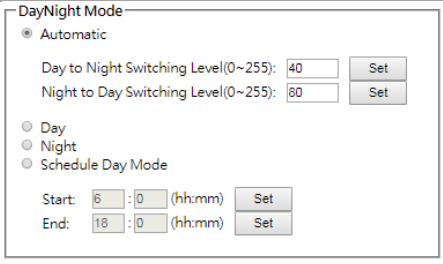
1. At the left corner on the top, you can see the “Flip” button that allows you to rotate the images up-side-down (180 degrees) with reorienting the channel order.

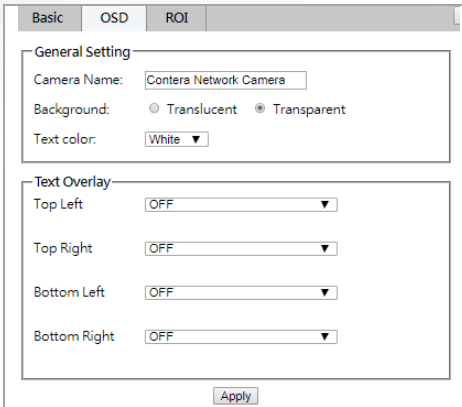
2. You will be able to see the Channel number when you move the mouse over the image of the channel.

Image

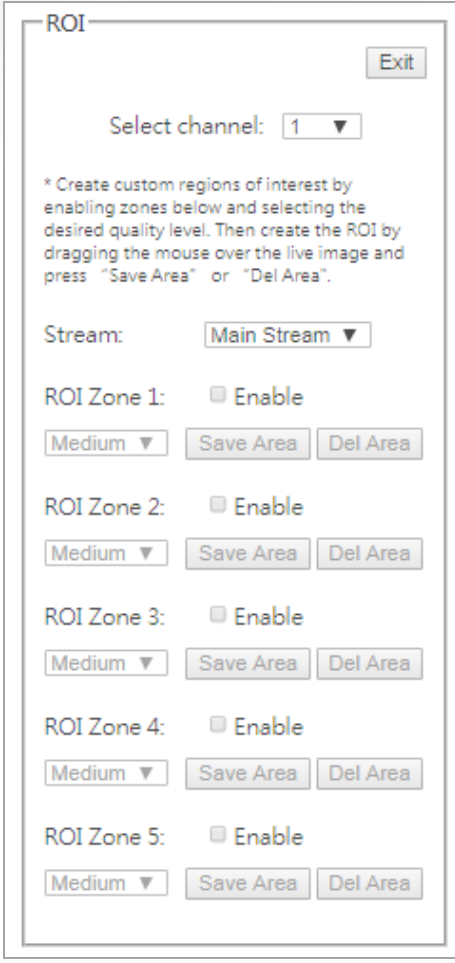
Menu	Feature	Description
Channel Global Mode: On Off Select channel: 1	Global Mode	**Enable Global Mode (ON)** Set up the parameters for four channels together. If Global Mode is enabled, the settings of four channels will be the same and they can be adjusted together. **Disable Global Mode (OFF)** Set up the parameters for each channel independently. If Global Mode is disabled, you can select the desired channel from "**Select channel**" to change settings.
Picture Brightness (-50...50) 0 Set Sharpness (0...4) 2 Set Saturation (0...6) 3 Set Contrast (0...100) 50 Set Hue (0...100) 50 Set	Brightness	Controls the overall brightness of the camera image and works in conjunction with the exposure controls to maintain the image brightness.
	Sharpness	Controls sharpness and edge definition of the image. Setting this to lower levels may make the overall image appear a bit softer while causing lines and edges in the image to look smoother.
	Saturation	Controls the color saturation of the image.
	Contrast	Manually controls Gamma level (affects the overall luminance of the image).
	Hue	Configures the overall hue of the image with a range of 0 ~ 100. Increasing the value will adjust the image hue towards red. Decreasing the value will adjust the image hue towards blue.
Misc Rotate AE Mode: Auto AWB Mode: Auto	Rotate	Enable the image rotation on each channel. ***NOTE:*** *Make sure Global Mode is set to "Off".*

	AE Mode (Auto Exposure Mode)	**Sync Brightness**: This option is available only if Global Mode is enabled. If Sync Brightness is selected, the Exposure Time Control and Gain Control are the same for all four channels. Also, the camera will be in LDR mode. **Auto**: If Auto is selected, each channel has individual settings of the Exposure Time Control and Gain Control.
	AWB Mode (Auto White Balance Mode)	**Auto**: Enables the automatic white balance feature of camera, which will automatically remove unrealistic color cast so that the color white is rendered white in the image. **Off**: Select Off to disable AWB Mode.
	Auto	Auto detects bright backlight, glare, or high contrast lighting and automatically selects the WDR level. ***NOTE:*** *WDR enabled will decrease the FPS of 20MP camera.* ***NOTE:*** *Make sure AE mode is set to "Auto".*
	HDR	Manually adjusts the intensity of backlight compensation. ***NOTE:*** *WDR enabled will decrease the FPS of 20MP camera.* ***NOTE:*** *Make sure AE mode is set to "Auto".*
	Turn off in low light	Disables WDR backlight compensation when the light levels drop for better nighttime image quality.
	Turn off in B/W	Disables WDR backlight compensation when the camera is in night mode for better nighttime image quality.
	DWDR	Digital WDR (DWDR) enhances the dark areas by adjusting the gamma value. This will not impact FPS of 20MP camera.
	LDR	Will not combine long and short exposures into one frame, resulting in better low light performance.
	Auto Exposure	Automatically adjusts illumination and exposure values. ***NOTE:*** *Make sure AE mode is set to "Auto".*

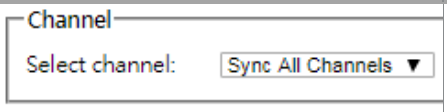
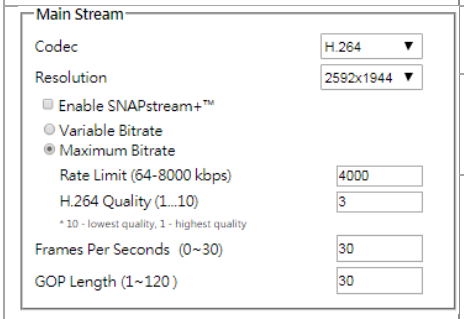
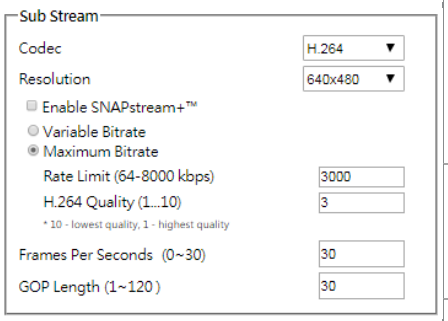
	Stream Profiles: Balance Mode -Slow Shutter Quality Mode	**Balanced Mode**: Limits exposure time from 0.1ms to 66ms. The camera will keep highest FPS when **Slow Shutter** is unchecked. **Quality Mode**: Limits exposure time from 0.1ms to 200ms. This mode is a good compromise between reducing noise and motion blur under most lighting conditions, but with an increase in motion blur under low light conditions.
	Moonlight Mode Custom Exposure Mode	**Moonlight Mode**: Limits exposure time from 20ms to 500ms. This mode produces the best image quality under very low light conditions with the least amount of image noise. The trade-off is low noise at the expense of high motion blur. **Custom Exposure Mode**: Enables manual setting of exposure time between 1 and 500ms. Shorter exposure times reduces motion blur for applications such as monitoring fast moving objects and reading license plates. The trade-off is an increased level of noise. It is recommended that this mode is used only when there is constant scene illumination sufficient enough to provide a quality image.
	Lighting Compensation Frequency: 50Hz, 60Hz, Custom	Prevents flicker caused by the power line frequency of lighting. Choose 50Hz for Europe or China, and 60Hz for US or Japan. This parameter will have no effect when the dominant light is sunlight. Optionally, the user can select a frequency between 5Hz and 255Hz. It will be enabled when user selects “Custom”.
	Day/Night Mode Automatic Day Night Schedule Day Mode	**Automatic**: Enables the camera to automatically switch from day mode to night mode. User can define the switching level from Day to Night or Night to Day. **Day**: Forces the camera to stay in day mode. **Night**: Forces the camera to stay in night mode. **Schedule Day Mode**: User defined times that the camera remains in day mode.
	Camera Name	Specifies a name for the camera. The maximum name length is 32 characters.

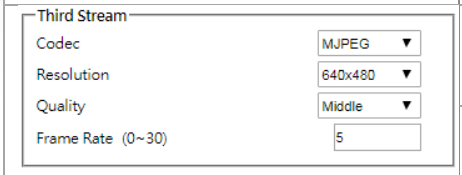
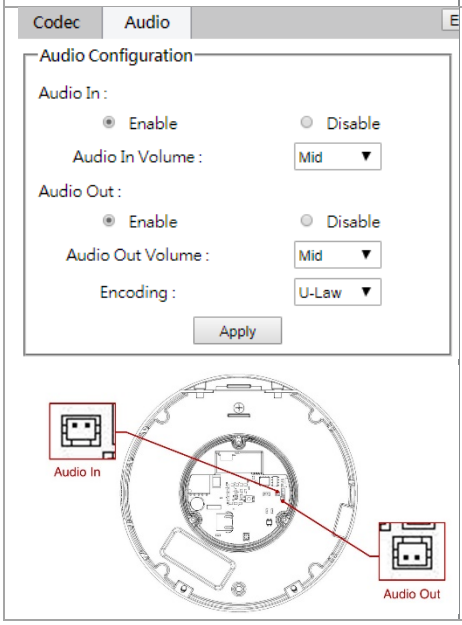


Background Translucent Transparent	Configures the background color of the text overlay. The options are Translucent (light grey) or Transparent.
Text Color	Options are Black, White, Green, or Yellow.
Text Overlay Off Date/Time Camera Name Camera Name + Date/Time Custom Text	There are four content positions (Top Left, Top Right, Bottom Left and Bottom Right) to display the text overlay. **Date / Time**: Displays the current date/time. It will force the camera to synchronize the date/time information. **Camera Name**: Displays the camera name you set. **Camera Name + Date / Time**: Displays both camera name and date/time information. **Custom Text:** Displays a customized text.

	ROI (Regions of Interest)	ROI (Regions of Interest) is used to select which areas will be monitored and recorded with higher image quality while using lower image quality for other non-ROI zones in order to save bandwidth and storage. To setup the ROI: 1. Select the desired channel 2. Select Main Stream or Sub Stream 3. Enable zones (up to five zones) and select the desired quality level (High, Medium, or Low) 4. Create the ROI by dragging the mouse over the live image 5. Press Save Area or Del Area

Video & Audio

Menu	Feature	Description
	Select channel	Select the desired channel to change video settings or select Sync All Channels to change video settings for all four channels at once.
	Video Compression: H.265 / H.264	Radio buttons to select the desired compression.
	Resolution	Radio buttons to select the desired resolution. Options vary based on the sensor resolution being used.
	Enable SNAPstream+™	Enable the SNAPstream+™ feature on the camera. This feature utilizes both Smart GOP and Smart ROI to reduce bitrate without impacting the image quality. Smart GOP sets GOP to automatically increase when no moving objects are detected. Smart ROI will increase the bitrate of moving objects and make them clearer.
	Variable Bitrate	Maintains the Quality settings configured. There may be variation in the bit rate output from the camera when using this mode.
	Maximum Bitrate	Maintains variable bit rate control and maintains the bitrate under the rate limit you choose. It can be set from 64 kbps to 8000 kbps.
	H.264 Quality	H.264 image quality setting for variable bit rate control. Setting a lower value results in higher image quality or setting a higher value results in lower image quality.
	Frames Per Seconds	Frame rate adjustment for the camera video stream. ***NOTE:*** *For 20MP model, FPS will be up to 50% of specified FPS if WDR is enabled.* ***NOTE:*** *For 20MP model, if one stream is set to full resolution and another one is set to full or half resolution, the maximum FPS of the main and sub stream is up to 15 FPS.*

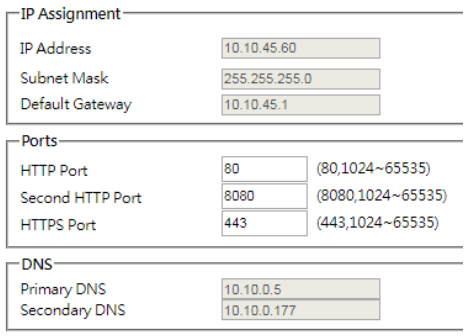
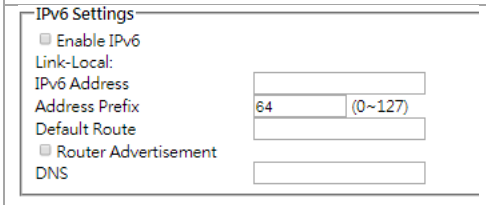
<table>
<tr><td rowspan="1"></td><td>GOP Length</td><td>Specifies how many frames exist between two consecutive I-Frames.</td></tr>
<tr><td rowspan="5"> 
</td><td>Video Compression:
MPJEG</td><td>The third stream is designed for the live view on web interface, and the only option of Video Compression is MPJEG.</td></tr>
<tr><td>Resolution</td><td>The third stream is designed for the live view on web interface, and the only option for Resolution is VGA.</td></tr>
<tr><td>Frames Per Seconds</td><td>Frame rate adjustment for the camera video stream.</td></tr>
<tr><td>Quality:
Low / Mid / High</td><td>Adjusts the compression level for JPEG images</td></tr>
<tr><td>Video Compression:
MPJEG</td><td>The third stream is designed for the live view on web interface, and the only option of Video Compression is MPJEG.</td></tr>
<tr><td> 
</td><td>Audio In

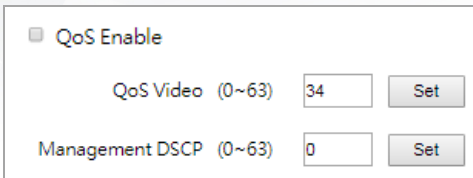
Audio Out

Volume

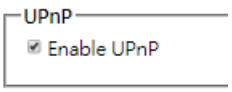
Encoding</td><td>Enables the Audio In / Audio Out features on the camera.
Specifies the volume level of Audio In / Audio Out: High, Middle, or Low.
Specifies the encoding algorithm: A-Law or U-Law.</td></tr>
</table>

Network

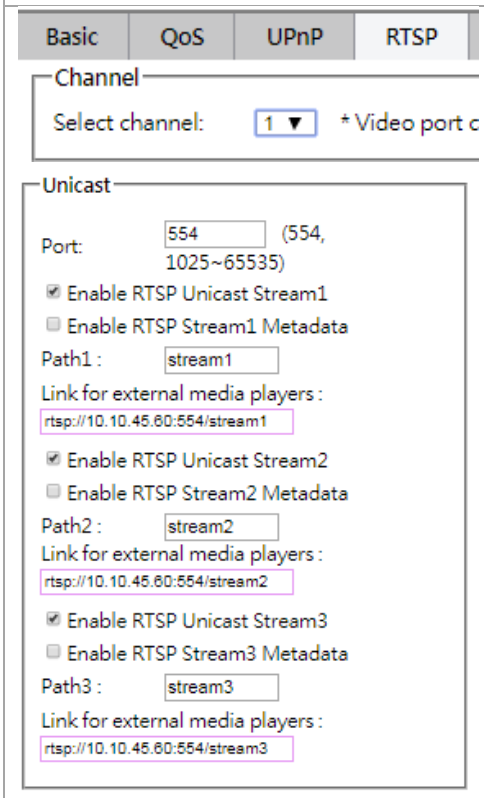
Menu	Feature	Description
	IP Assignment: • DHCP • IP Address • Subnet Mask • Default Gateway	**DHCP**: If checked, the camera will attempt to obtain its IP address from the DHCP server available on the network. **IP Address**: Sets the current IP address of the camera. **Subnet Mask**: Once set, the camera will use these mask bits to determine if a destination is from a different network. **Default Gateway**: Once set, the camera will send network traffic to the specified gateway if the destination is on a different network.
	Port: • HTTP • Second HTTP Port • HTTPs	**HTTP:** The port default is 80. It is used to access the camera via the web browser. **Second HTTP Port**: Sets an alternative HTTP port. This port can be useful when the standard HTTP port (80) is not appropriate for this camera. **HTTPs:** The port default is 443. It can be used when you use HTTPs.
	Port: • Primary DNS • Secondary DNS	Configures the Primary and Secondary DNS.
	IPv6 Settings: • Enable IPv6 • IPv6 Address • Address Prefix • Default Route • Router Advertisement • DNS	Enable IPv6: Enables IPv6 function. Manually configures IPv6 address, Address prefix, Default route, and DNS server address. Router Advertisement: Enables Router Advertisement



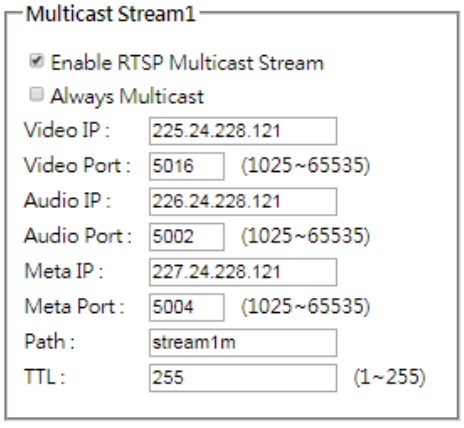
QoS Enable	Enables quality of service.
QoS Video	Sets DSCP value for video traffic.
Management DSCP	Sets DSCP value for non-video traffic.



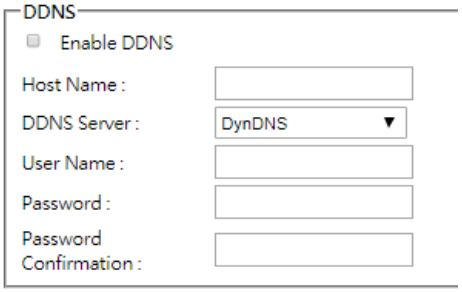
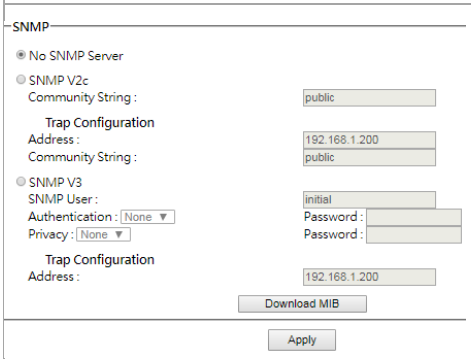
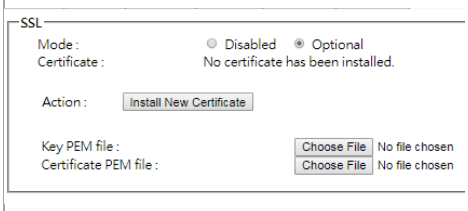
Enable UPnP	Enables Universal Plug and Play function.

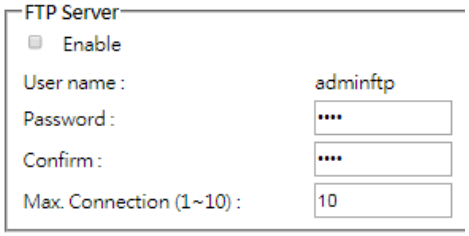
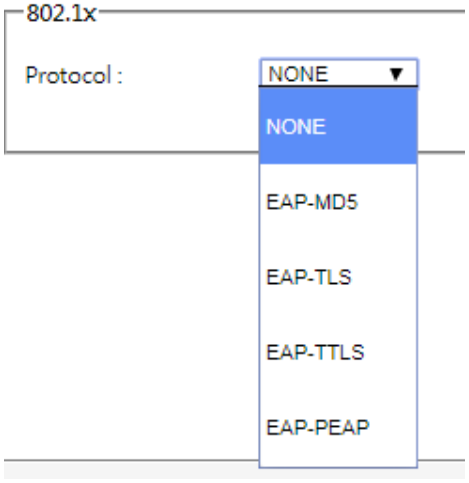


Select channel	Select the desired channel to change RTSP settings
Enable RTSP Unicast Stream	Enables RTSP Unicast for stream 1 (Main stream), stream 2 (Sub Stream), and stream 3 (Third Stream)
Enable RTSP Stream metadata	Enables RTSP stream metadata for stream 1 (Main stream), stream 2 (Sub Stream), and stream 3 (Third Stream)
Path	Configures the pathname for each stream.
Link for external media players	Copies the link from here for external media players



Enable RTSP Multicast Stream	Enables RTSP Multicast stream for stream 1 (Main stream), stream 2 (Sub Stream), and stream 3 (Third Stream)
Always Multicast	Enables the video streams to start multicast streaming without using RTCP
Video IP Video Port	Configures the multicast address and the port number to stream video.
Audio IP Audio Port	Configures the multicast address and the port number to stream audio. *This function's support depends on the model
Meta IP Meta Port	Configures the multicast address and the port number to the HTML meta.

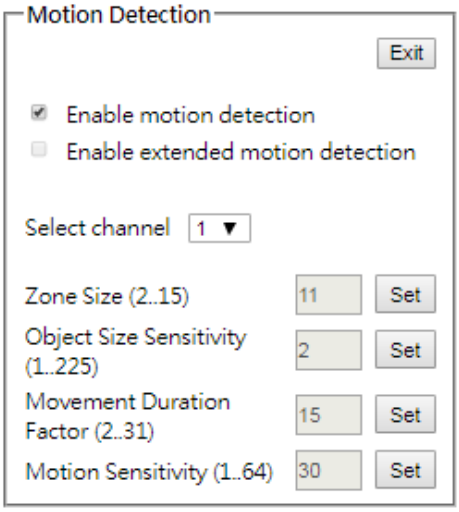
	Path	Configures the URL address of the video stream.
	TTL	Configures the time-to-live threshold of the multicast datagram before it is discarded by the router.
	Enable DDNS	Enables DDNS service
	Host Name	Specifies the Host name registered with the DDNS server
	DDNS Sever	Selects one of the pubic DDNS severs from the dropdown menu. Options are DynDNS, NO-IP, and Twi-DNS.
	User Name	Specifies the user name of the DDNS account.
	Password	Specifies the password of the DDNS account.
	Password Confirmation	Confirms the password of the DDNS account.
	No SNMP Sever	Disables SNMP function
	SNMP v2c	Enables SNMP version 2 support
	Community String	Specifies the name of the community to access to SNMP information.
	Trap Configuration: Address Community String	Specifies the destination IP address to send SNMP trap messages.
	SNMP v3	Enables SNMP version 3 support.
	SNMP User	Specifies the user name of the SNMP v3.
	Authentication Password	Selects one of the Authentication modes from the dropdown menu. Options are None, MD5, and SHA. Specifies the Password for the Authentication.
	Privacy Password	Selects one of the encryption methods for SNMP v3 from the dropdown menu. Options are DES and AES. Specifies the Password for the encryption.
	Trap Configuration: Address	Specifies the destination IP address to send SNMP trap messages.
	Download MIB	Clicks to download MIB file for SNMP.
	Mode	Disable: Support for HTTP only. (Optional) Support for HTTP and HTTPs both.
	Certificate	Shows the current status of the Certificate

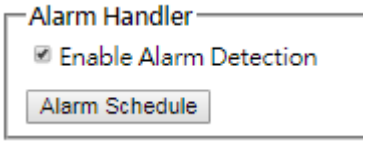
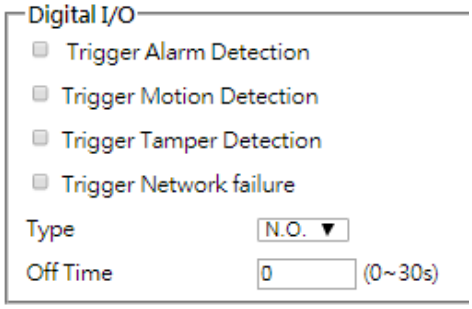
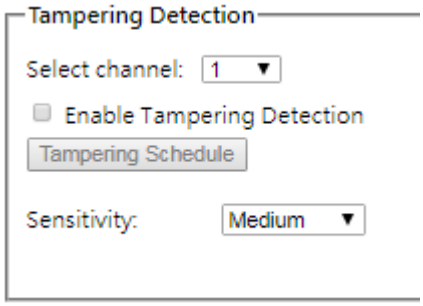
	Install New Certificate Key PEM file Certificate PEM file	1. Locate Key PEM file and Certificate PEM file and click Upload. 2. Click Install New Certificate to upload the Certificate.
	Enable	Enables FTP access to the camera. ***NOTE:*** This function is only available when a SD card is installed. You can access files in the SD card via FTP.
	Password Confirm	Specifies and confirms the password to access the FTP.
	Max. Connection	Specifies the maximum number of FTP connections to the IP camera.
	Protocol	The default is None to disable 802.1 x functions. You can select one of the protocol options from the dropdown menu. The supported protocols are EAP-MD5, EAP-TLS, EAP-TTLS or EAP-PEAP. After the protocol has been selected, manually configure the username, password, and other required information.

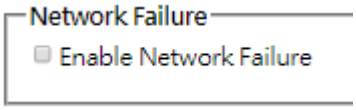
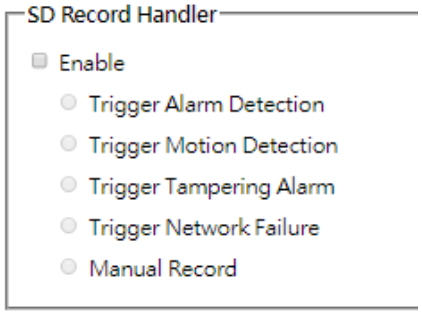
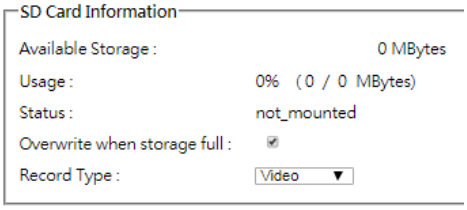
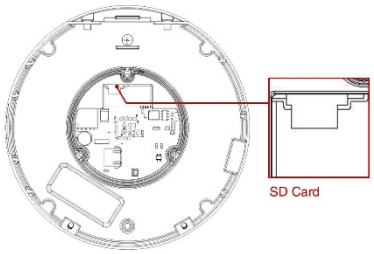
Privacy Mask

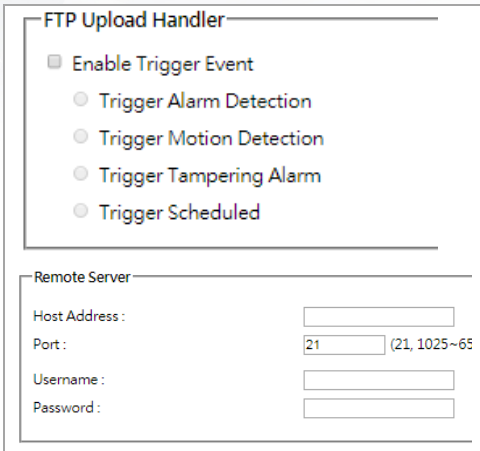
Menu	Feature	Description
Privacy Mask Exit Enable privacy mask Select channel # 1 Drag mouse to Mask Unmask *Note: It might take a few seconds for a privacy mask to show on the video stream.	Enable Privacy Mask	Creates a privacy mask on the image so the selected areas will not be visible.
	Select Channel	Select the desired channel to add privacy masks.
	Drag mouse to: Mask Unmask	Select Mask to add privacy masks or Select Unmask to remove privacy masks.

Event

Menu	Feature	Description
Event > Motion Detection  	Enable motion detection	Turn on and off on-camera motion detection.
	Enable extended motion detection	Enables the extended motion detection and motion detection zones with an increase from default 64 to 1024 for enhanced motion detection sensitivity.
	Select channel	Select the desired channel to apply motion detection.
	Zone Size	Adjusts the size of motion detection zones.
	Object Size Sensitivity	Sets the size of each zone displayed by the motion detection grid. Contains sub zones where the number of sub zones is set by setting the zone size up to 32x32 (pixels). This setting configures the sensitivity of the motion detection to the size of objects in the image moving through the zone. Higher values will trigger motion only for larger objects moving through the zone, and lower values will cause detection of smaller objects in the zone (increasing sensitivity to smaller size objects moving through the image).
	Movement Duration Factor	Sets the sensitivity to brightness changes between dark and light objects within each grid zone. As an example, “Object Size Sensitivity” will set the size of the object detected within the zone, and “Movement Duration Factor” sets the duration that movement must be maintained to trigger motion detection. Lower settings can increase false motion alarms caused by image noise; higher settings will require more movement to trigger a motion event.
	Motion Sensitivity	Sets the sensitivity to sudden overall brightness changes in the image.
	Enable Alarm Detection	Enables Alarm Detection (Alarm In) function.

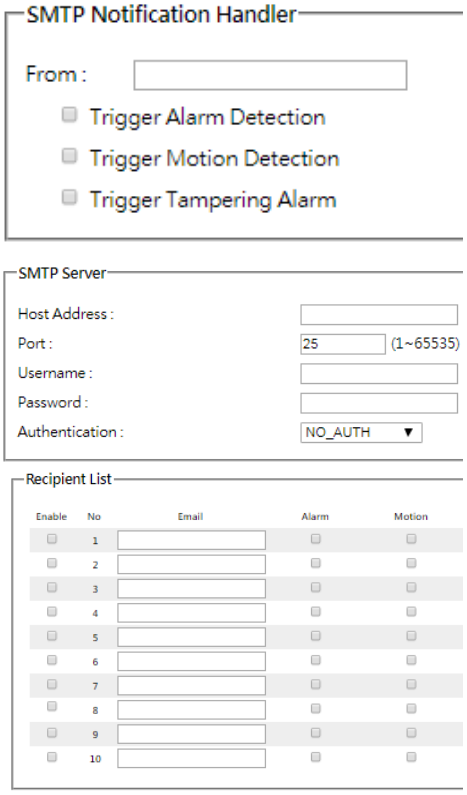
Event > Alarm Handler 	Alarm Schedule	Configures the alarm schedule by holding down the mouse button and clicking the time block to enable the schedule settings on the selected time. A light blue color on the time block indicates that the alarm schedule is enabled, while a light grey color indicates that the alarm schedule is disabled. Alternatively, you can manually enter the numbers to configure the hours and minutes for the “start” and “end” of the day. S: Click “S” to set up a 24-hour schedule on a particular day. D: Click “D” to clear the previous schedule on a particular day.
Event > Digital I/O 	Trigger Alarm Detection	When a signal is detected from Alarm in the Alarm out will be triggered.
	Trigger Motion Detection	When a motion event is detected the Alarm out will be triggered.
	Trigger Tamper Detection	When a tamper event is detected, the Alarm out will be triggered.
	Trigger Network Failure	When a network failure event is detected the Alarm out will be triggered.
	Type	Selects the type: N.O (Normal Open) or N.C (Normal Close)
	Off Time	Specifies the alarm duration
Event > Tamper Detection 	Select channel	Select the desired channel to enable tampering detection.
	Enable Tampering Detection	Enables Tampering Detection function.
	Tampering Schedule	Configures the alarm schedule by holding down the mouse button and clicking the time block to enable the schedule settings for the selected time. A light blue color on the time block indicates that the alarm schedule is enabled, while a light grey color indicates that the alarm schedule is disabled. Alternatively, you can manually enter the numbers to configure the hours and minutes for the “start” and “end” of the day. S: Click “S” to set up a 24-hour schedule for a particular day.

		D: Click “D” to clear the previous schedule for a particular day.
	Sensitivity	Configures the sensitivity level of Tamper Detection: **High**, **Medium**, and **Low**.
	Enable Network Failure	Enable network failure detection.
Event > SD Card   	SD Record Handler Enable	Enables and selects a desired trigger source. The options are Trigger Alarm Detection, Trigger Motion Detection, Trigger Tampering Alarm, Trigger Network Failure, and Manual Record.
	SD Card Information Available Storage Format SD Card Usage Status Overwrite when storage full Record Type	**Available Storage**: Displays the available storage of the SD card if it is installed. **Format SD Card**: Erases all the data stored on the SD Card. **Usage**: Displays the total storage that has been used now. **Status**: Displays the status whether the SD card is installed or not. (not mounted or ok) **Overwrite when storage full**: Enables overwriting the SD card if the storage is full. **Recoding Type**: Specifies the desired action to record a stream. The options are Snapshot and Video.
	FTP Upload Handler Enable Trigger Event	Enables and selects a desired trigger source. The options are Trigger Alarm Detection*, Trigger Motion Detection, Trigger Tampering Alarm, and Trigger Scheduled. **This function’s support depends on the model*
Event > FTP Upload	Remote Server	

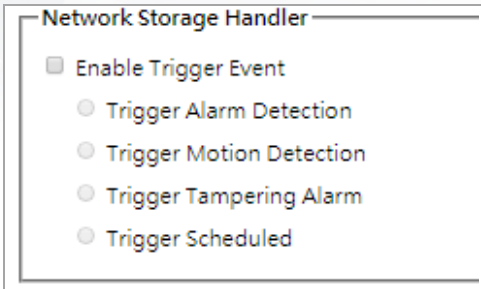


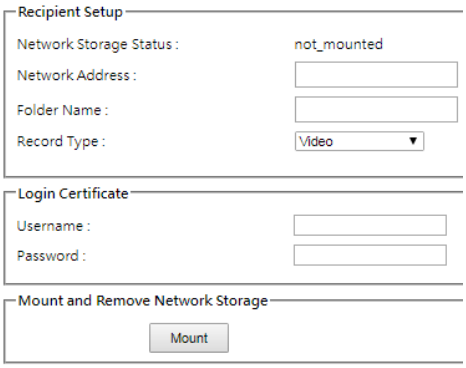
Host Address	**Host Address**: Specifies the host name or IP address of the FTP server.
Port	**Port**: Specifies the port number of the FTP server.
Username	**Username**: Specifies the login username of the FTP server.
Password	**Password**: Specifies the login password of the FTP server.

Event > SMTP Notification



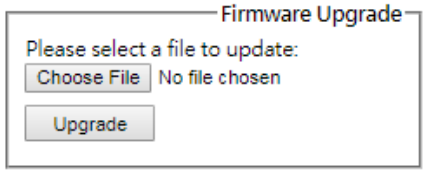
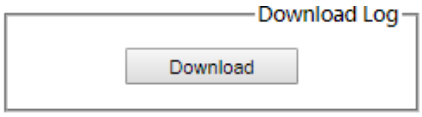
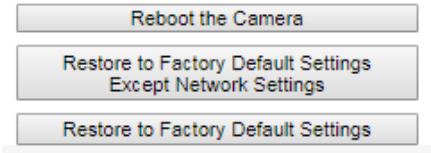
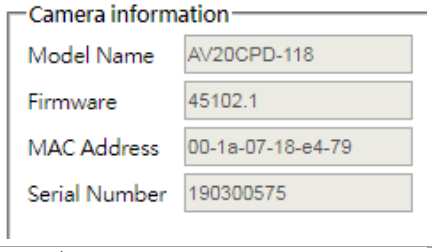
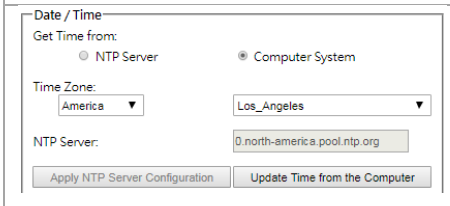
SMTP Notification Handler	From: Specifies the email address of the sender Selects a desired trigger source. The options are Trigger Alarm Detection, Trigger Motion Detection, and Trigger Tampering Alarm.
SMTP Server Host Address	**Host Address**: Specifies the host name or IP address of the SMTP server.
Port	**Port**: Specifies the port number of the SMTP server.
Username	**Username**: Specifies the login username of the SMTP server.
Password	**Password**: Specifies the login password of the SMTP server.
Authentication	**Authentication**: Specifies the authentication mode of the SMTP sever. The options are NO_AUTH, SMTP_PLAIN, LOGIN and TLS_TLS.
Recipient List	Specifies the email addresses to send the email notification when selected events are triggered by Alarm, Motion, or Tamper. A maximum of 10 email addresses can be configured.
Network Storage Handler	Enables and selects a desired trigger source. The options are Trigger Alarm Detection*, Trigger Motion Detection, Trigger Tampering Alarm, and Trigger Scheduled. **This function is supported depends on models.*
Recipient Setup	**Network Storage Status**: Displays the current status of the connection with





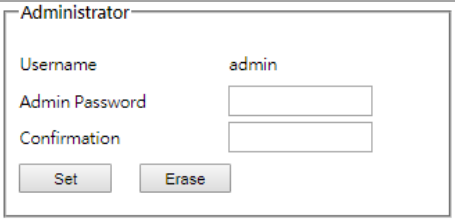
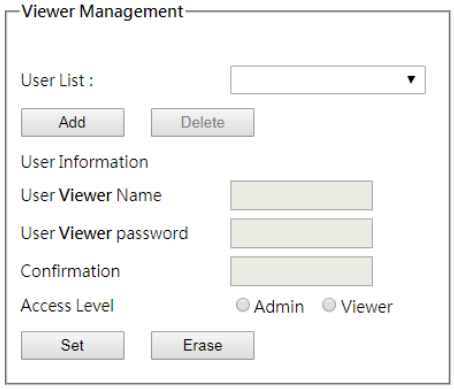
Network Storage Status Network Address Folder Name Record Type	the network storage server. (Status will display “Not Mounted” or “OK”) **Network Address**: Specifies the IP address of the network storage server. **Folder Name**: Specifies the folder name on the network storage server. **Recoding Type**: Specifies the desired action when an event is triggered. The options are Snapshot and Video.
Login Certificate	Specifies the login Username and Password for the network storage sever.
Mount Network Storage Remove Network Storage	**Mount**: Sets up a network connection with the network storage server. All the video recordings or snapshots from event triggers will be uploaded to the network storage server. After the setting is complete, the Network Storage Status field will display “ok”. **Remove**: Deletes the previous setting. After the setting is removed, the Network Storage Status field will display “not mounted”.

System

Menu	Feature	Description
	Firmware Upgrade	Clicks “Choose File” to choose the firmware upgrade file, and then click Upgrade.
	Download Log	Records all the status information of the camera in list format. Downloads the log file to the computer as a text file. ***NOTE:*** *The log file is protected by a password. Please contact with Arecont Vision Costar technical support team.*
	• Reboot the Camera • Restore Factory Default Settings Except Network Settings • Restore to Factory Default Settings	**Reboot the Camera**: Reboots the camera. **Restore Factory Default Settings Except Network Settings:** Restores all settings to factory default except the network settings. **Restore to Factory Default Settings**: Restores all settings to factory default.
	Camera information	Displays the information of the camera: Model Name, Firmware, MAC Address, and Serial Number.
	Date/Time • Get Time from • NTP Server • Computer System	**NTP Server**: Synchronizes the date/time information with defined NTP server. After setting up the desired Time zone and NTP Server, click “Apply NTP Server Configuration”. ***NOTE:*** *Please make sure to set up appropriate gateway before configuring the NTP server.*

		Computer System: Synchronizes the date/time information with current computer's date/time. Once this option is selected, click "Update Time from the computer".
	Time Zone	Specifies the country / city of the time zone from the drop-down menu.
	NTP Server	Specifies the desired NTP server

Administration

Menu	Feature	Description
	Access Control	Passwords can be up to 16 letters, digits and symbols, excluding the following symbols for passwords without encoding # % & ' " < > / [ ] { } _ ( ) = . + ,
	Administrator • Username • Admin Password • Confirmation • Set/ Erase	Username: The username of Administrator is admin and cannot be changed. **Admin**: includes full access to all camera settings and live video. **Admin Password:** Specifies the password for the administrator. **Confirmation:** Re-enters the password for the password validation. **Set / Erase:** Saves or removes the password. ***NOTE:** If admin password was set but has been lost, it can be erased by AV IP Utility using the key file. Please contact Arecont Vision Costar technical support to obtain the key file required to perform this function. Or, if the camera has a reset button, you can also reset it to Factory default to remove the password.*
	Viewer Management • User List • User Viewer Name • User Viewer Password • Confirmation • Access Level • Set/ Erase	User List: Displays current user accounts created on the camera. Clicks New User/ Delete User to create or remove a user account. **User Viewer Name**: Specifies the user name. It must be at least five and up to sixteen characters. **User Viewer Password**: Specifies the password for the viewer. **Confirmation**: Re-enters the password for the password validation. **Access Level**: Defines the authorization **level for the user**: Admin or Viewer. Set/ Erase: Save or removes the password.

Support

Menu	Feature	Description
Support • Resources • Online Support Request • Firmware Downloads • Software Downloads • Technical Updates • Product Selector • Downloads	Support	Provides several hyperlinks to get more information on the camera.

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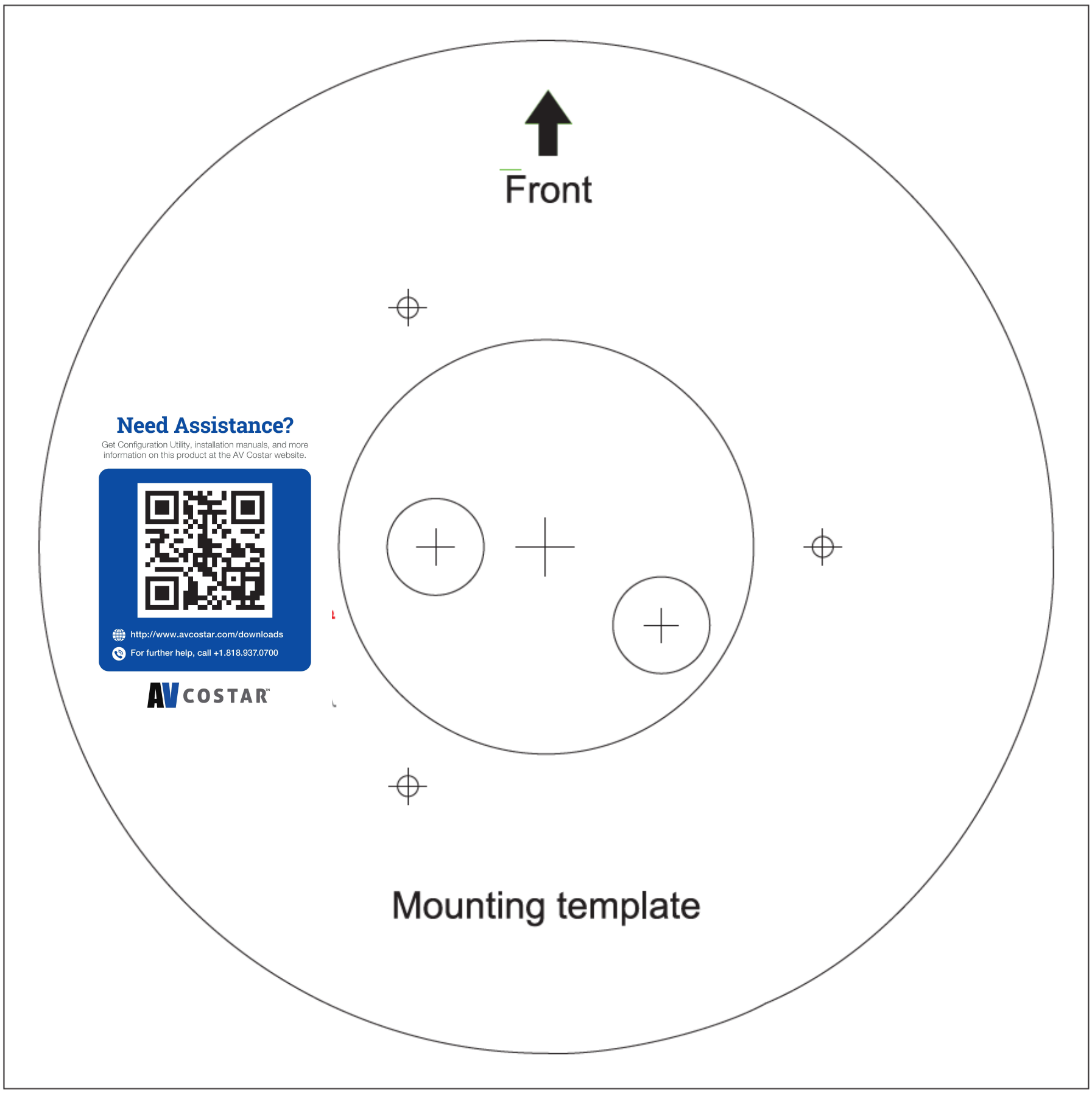
Mounting Templates