Contera IP® MicroDome® Duo LX

Installation Manual

4MP		10MP		16MP	
AV4856DN-28	AV4856DN-NL	AV10856DN-28	AV10856DN-NL	AV16856DN-28	AV16856DN-NL

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AV COSTAR™

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About Our Warranty

Global (3 Year) Limited Warranty

AV 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, AV COSTAR shall have no obligation or responsibility with respect to any Product that (i) has been modified or altered without AV 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. AV COSTAR MAKE NO WARRANTIES OR CONDITIONS, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, OTHER THAN THE EXPRESS LIMITED WARRANTIES MADE BY AV COSTAR ABOVE, AND AV 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. AV 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 AV COSTAR OR (IV) THAT ALL LICENSED PROGRAM ERRORS WILL BE CORRECTED.

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

Camera Overview

The ConteraIP® MicroDome® Duo LX features twin multi-megapixel cameras in a compact housing, and is ideal for a variety of professional indoor/outdoor surveillance requirements. Applications include coverage of a hallway or walkway, monitoring POS terminals or ATMs, or for viewing of a single wide area or two distinct regions.

ConteraIP® MicroDome® Duo LX is available with a choice of 4-, 10-, or 16-megapixel (MP) resolutions. These cameras provide an all-in-one solution for capturing wide area video surveillance while maximizing the field-of-view and reducing the total number of cameras required saving installers time and end users money.

The ConteraIP® MicroDome® Duo LX is ideal for applications with challenging lighting conditions regardless the time of day, supported by dual day/night mechanical IR cut filters. 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 (IEEE 802.3af) compliant network cable or via an 12–48V DC/24V AC power supply.

The installer-friendly ConteraIP® MicroDome® Duo LX enclosure shortens the installation process. ConteraIP® MicroDome ® Duo LX is designed for demanding environments. Certified to 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.

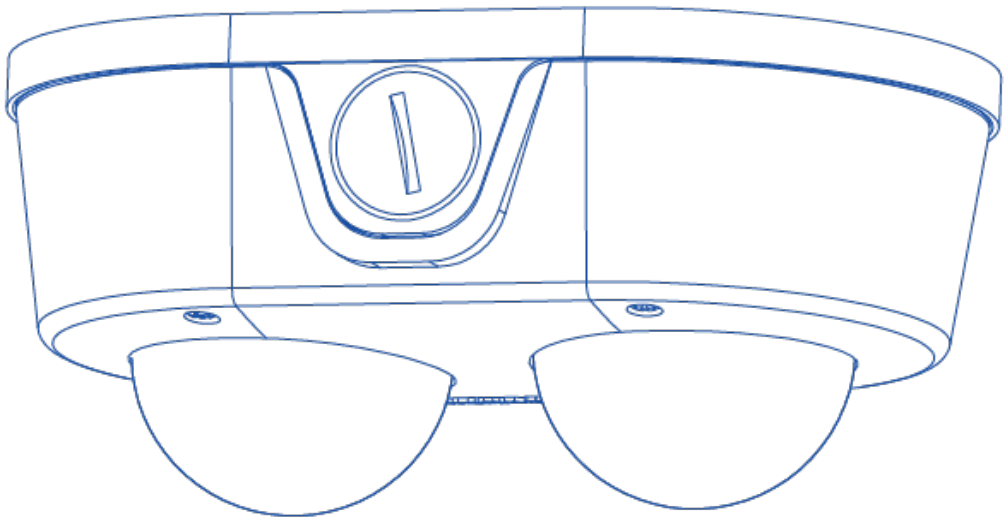
AV Costar™ was the first to bring H.264 to the mainstream market and recently developed SNAPstream™ (Smart Noise Adaptation and Processing) technology for reducing bandwidth without impacting image quality. Today we are proud to offer our next generation H.265 with SNAPstream+™ smart codec capable of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

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

Package Contents

- AV4856DN / AV10856DN / AV16856DN

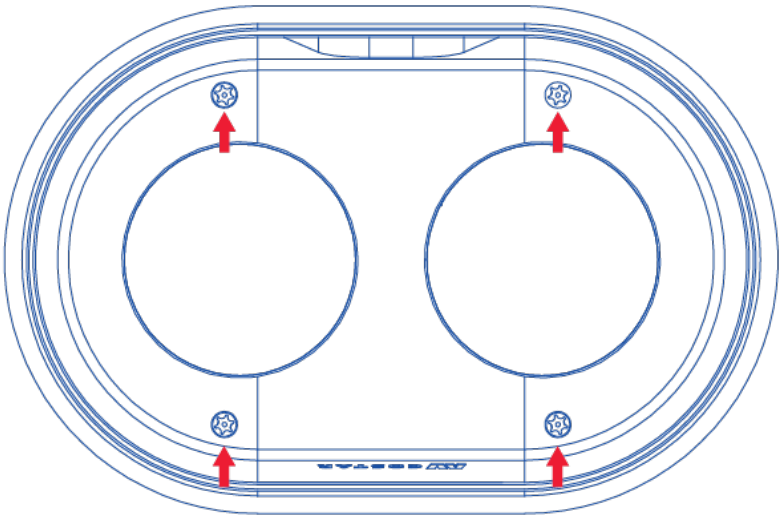
Description	QTY
AV4856DN / AV10856DN / AV16856DN IP camera	1
Mounting Template	1
Mounting Plate	1
Accessory Pack	1

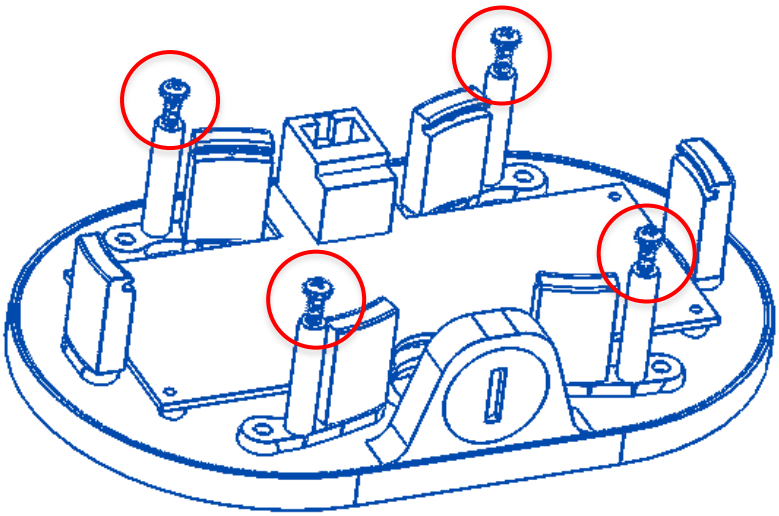


Installation

Surface Mounting

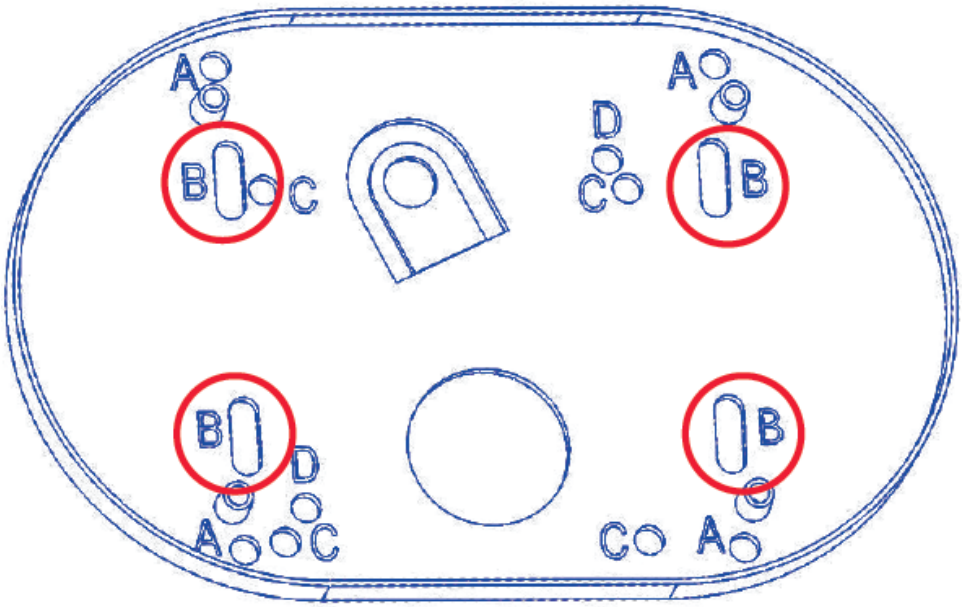
1. Determine a secure location to mount the camera.
2. Use the supplied security L-key, to loosen the four (4) screws which secure the cover.
3. Remove the cover. Do not remove screws from the dome cover.

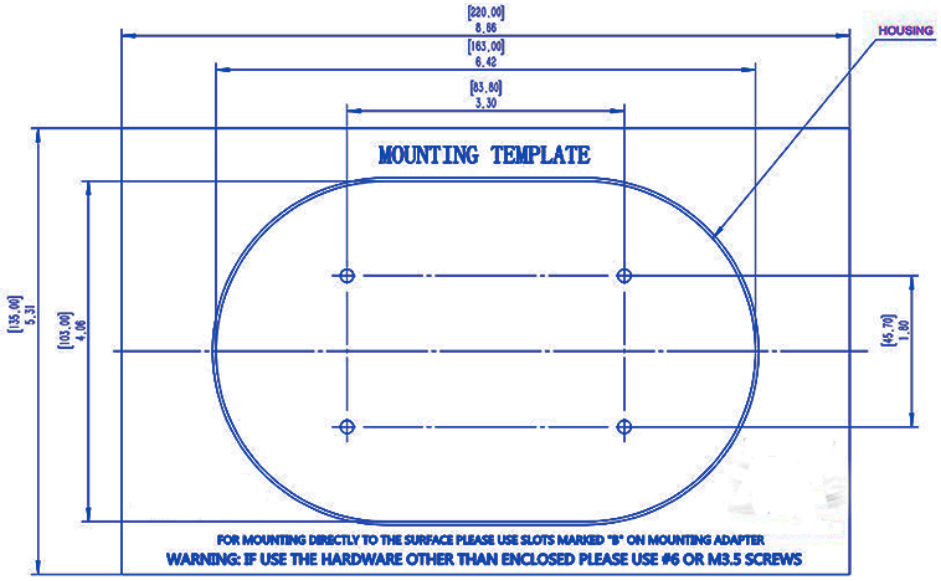




4. Use Phillips screwdriver to loosen the four (4) screws securing the camera to adapter plate. (some parts removed for clarity)

5. Separate Camera from Adapter Plate. Do not remove the screws.
6. Use Mounting template to create mounting provisions for the camera.
7. Mount Adapter Plate by installing mounting hardware in 4 slots “B” in adapter plate

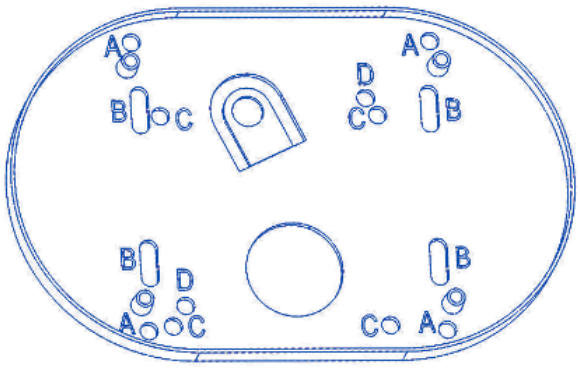




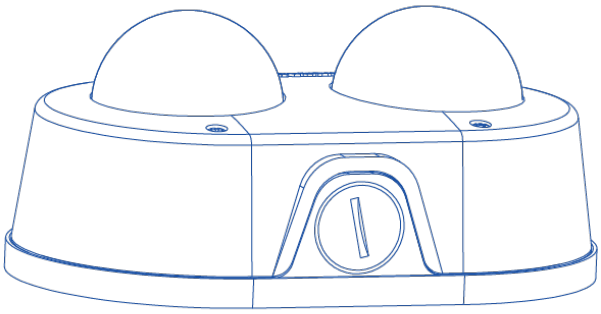
8. Re-attach camera to adapter plate (Reverse step 4 and 5)
9. Re-attach cover to camera (Reverse step 2 and 3)

Drop Ceiling Mount Adapter Plate Installation

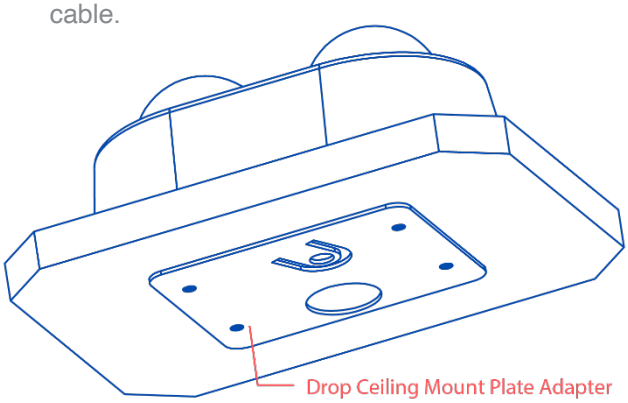
1. Repeat step 1-5 of Surface Installation (See Pic. 1-3)
2. Use template and cable location to create mounting provisions for the Plate. Use 3/16” drill bits for four mounting holes in Drop Ceiling Panel.



3. Using enclosed #6-32 screws attach enclosed Drop Ceiling Mount Plate Adapter and Adapter Plate onto opposite sides of Drop Ceiling Panel, so the panel is “sandwiched” between Adapter Plate and Drop Ceiling Mount Plate Adapter. Use 4 slots “B” in Adapter Plate.
4. Re-attach camera to adapter plate (Reverse step 4 and 5)

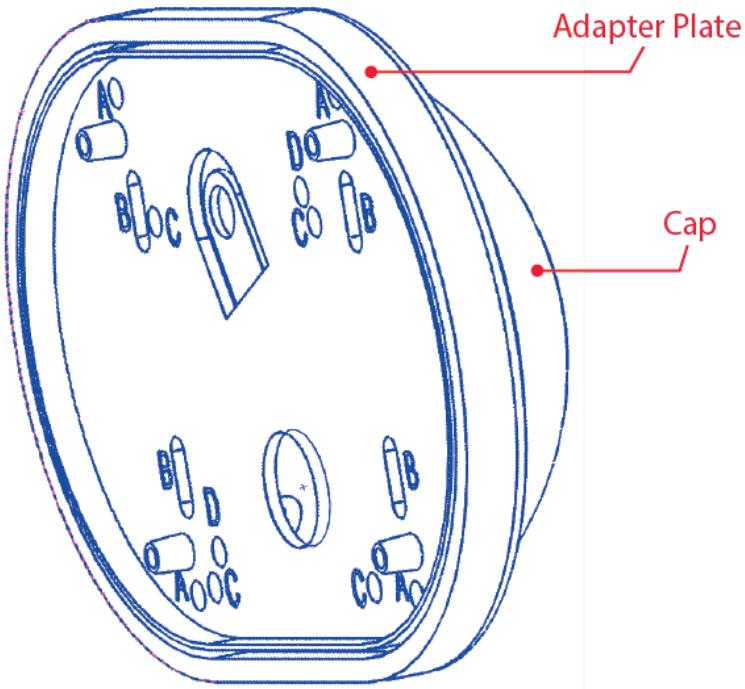


5. Re-attach cover to camera (Reverse step 2 and 3)
6. Re-install the Drop Ceiling Panel and plug Customer Ethernet cable into female end of Camera Ethernet cable.

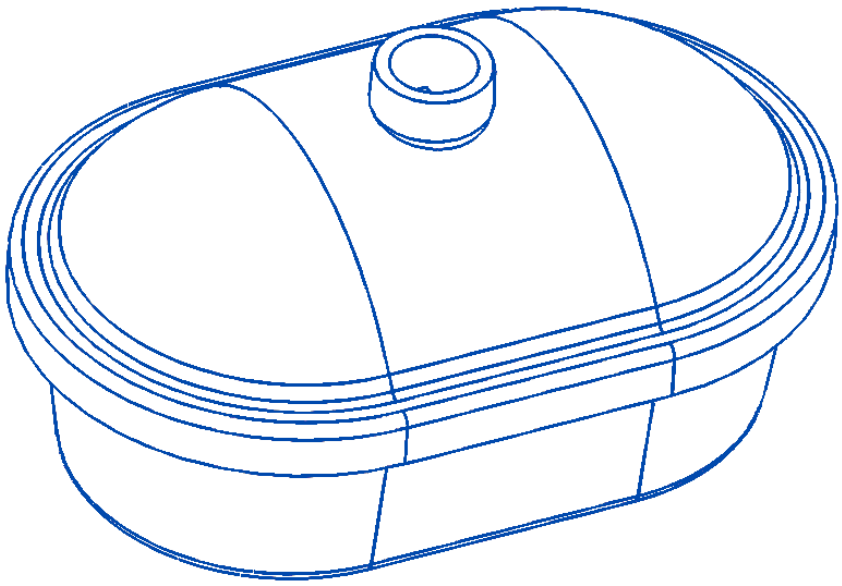


Cap Installation

1. Repeat step 1-5 of Surface Installation

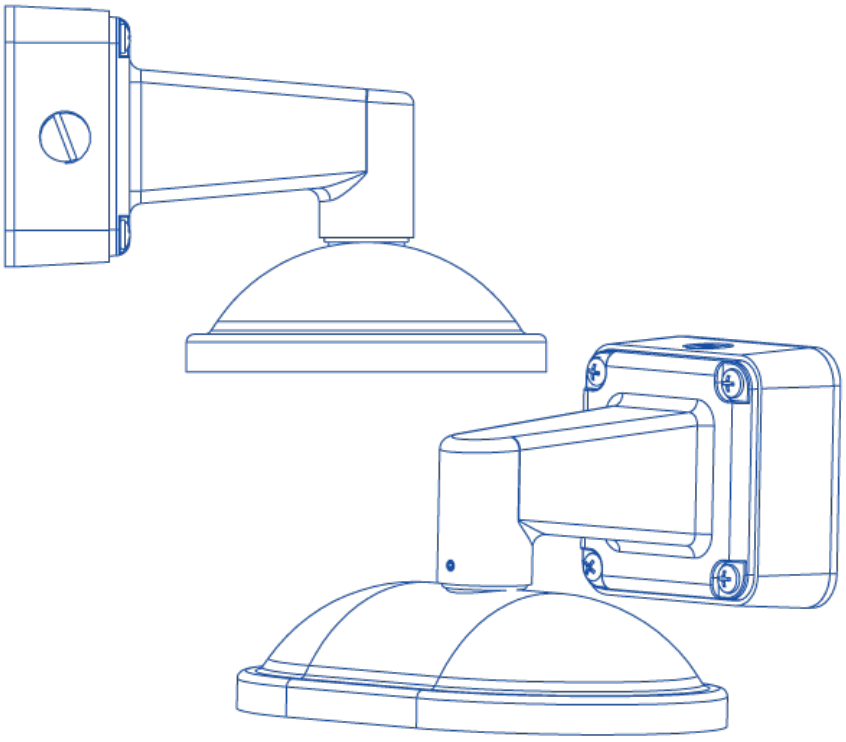


2. Insert Adapter Plate into the Cap and attach it to the cap, using the 4 screws through 4 “A” holes using enclosed #6-32 screws.
3. Re-attach camera to adapter plate (Reverse step 4 and 5)
4. Re-attach cover to camera (Reverse step 2 and 3)

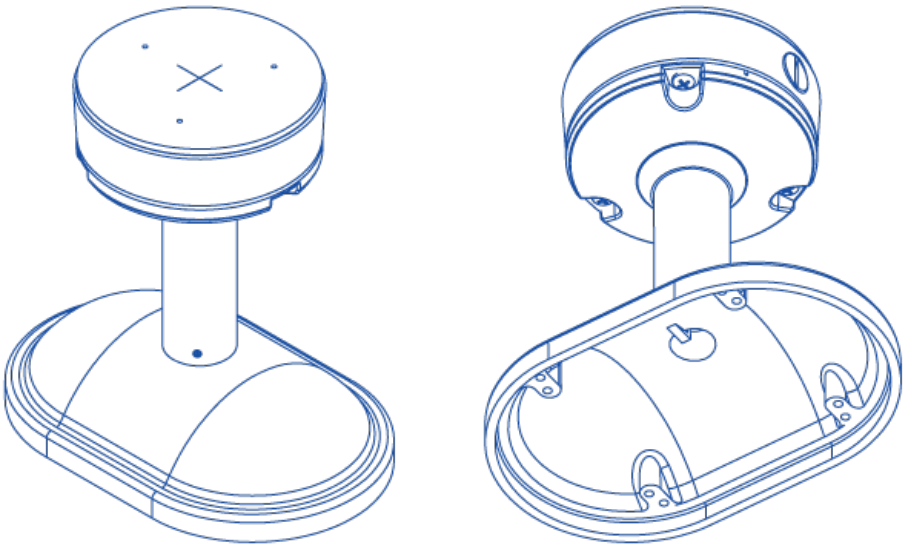


PIC. 7

5. Assembly (Pic. 7) can be used with wall mount or ceiling mount



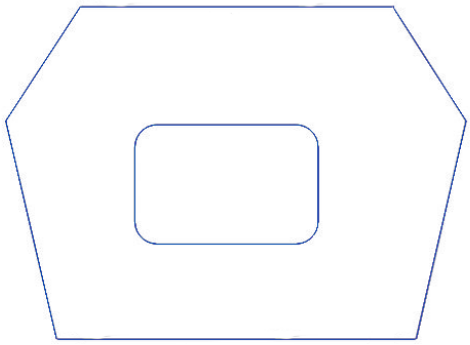
PIC 8



PIC. 9

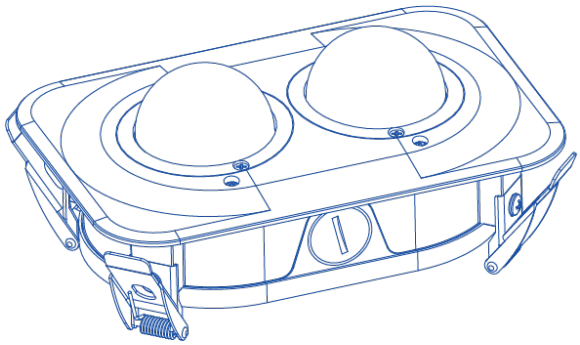
Flush Mount Installation

1. Use template to cut the ceiling plate and create mounting provisions for the Flush Mount Ceiling Panel.



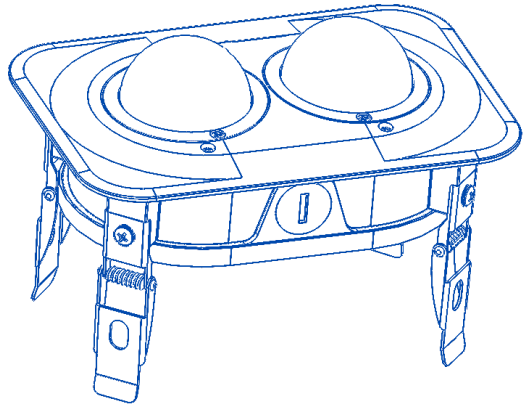
PIC. 10

2. Use the supplied security L-key, to loosen the four (4) screws which secure the cover on camera. (See Pic. 1). Remove the cover.
3. Install Flush Mount Cover and tighten the four (4) screws which secure the Flush Mount Cover to camera.

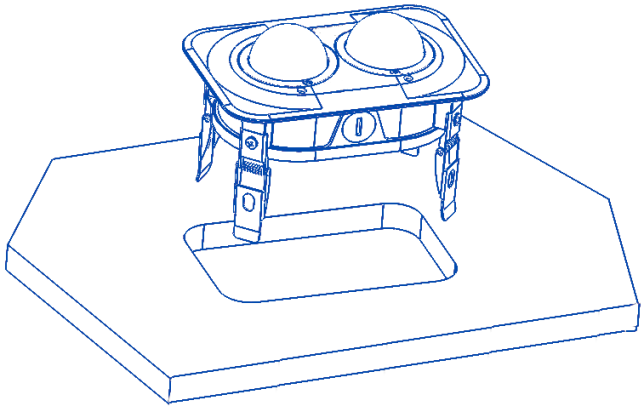


PIC. 11

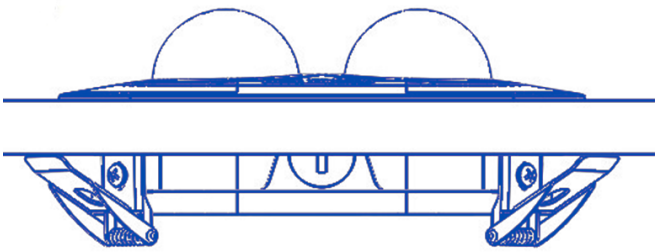
4. Plug PoE cable (not shown for clarity)
5. Hold all four latches as shown on PIC. 12
6. Insert camera into cutout prepared in step 1



PIC. 12



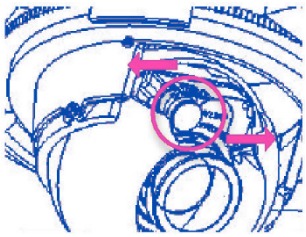
PIC. 13



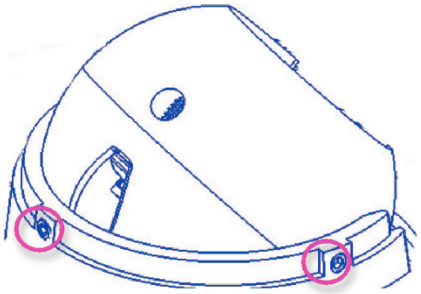
PIC. 14

Pan and Tilt Adjustment

1. Use the supplied security L-key, to loosen the four (4) screws which secure the cover. See Pic. 1.
2. Remove the cover.
3. Adjust the pan and tilt of each camera module to obtain the desired field of view.
   Do not to press the remote focus motor against the sides of camera module when adjusting the field of view (refer to the image below).



4. Lock the camera head in place by tightening at least two of the three set-screws with the supplied flat-head screwdriver. Do not over torque the screws (refer to the image below)



5. Re-attach cover to camera.

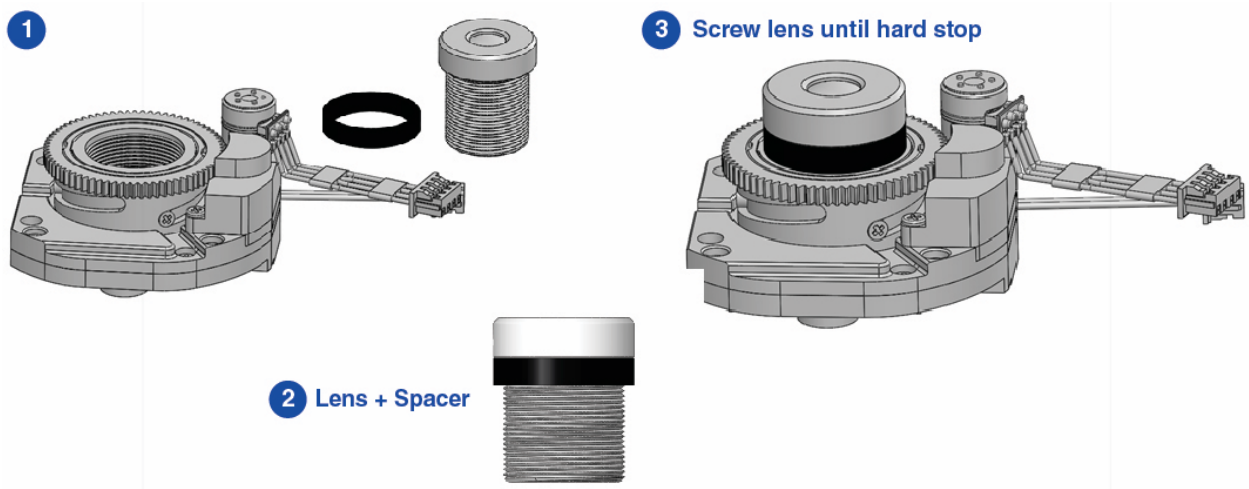
Lens Replacement

1. Use the supplied security L-key, to loosen the four (4) screws which secure the cover. (See Pic. 1). Remove the cover.
2. Manually turn the lens counterclockwise, this may take several turns.
3. Screw the replacement lens clockwise until you feel some resistance and hit a hard stop.
4. Repeat for another camera module if necessary.

Lens Options

NOTE: Spacers are required for some lens options. See table below.

Lens Part Number	Description	Numbers of Spacers Needed
MPM2.4	2.4mm	0
MPM2.8C	2.8mm	0
MPM4.0A	4mm	2
MPM6.0	6mm	2
MPM8.0	8mm	2
MPM12.0A	12mm	2
MPM16.0	16mm	1



Camera Power Up

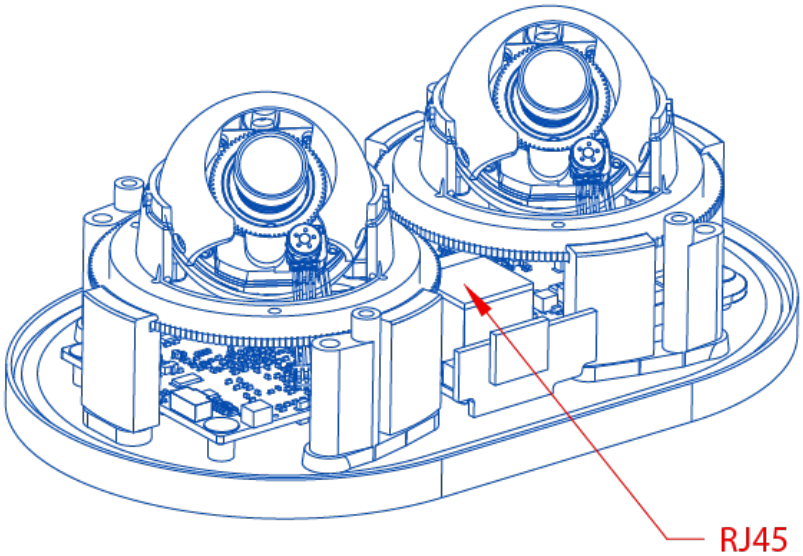
CAUTION!

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.

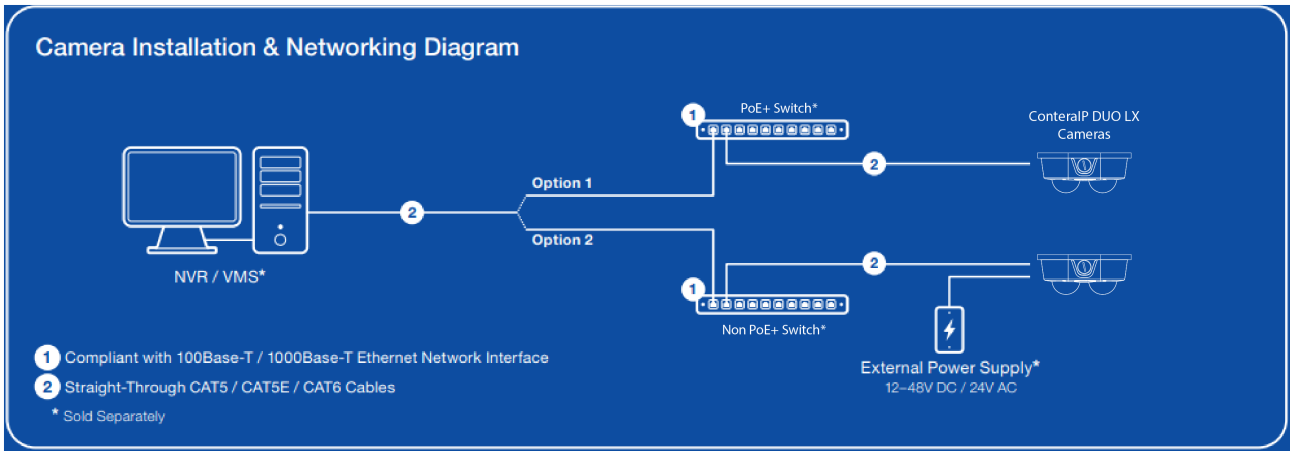
1. Connect the camera to a PoE port on 1000Mbps network PoE switch using an Ethernet cable.
2. If the camera is powered by an external power supply 12-48V DC or 24V AC must be supplied.



NOTE: This product is intended to be supplied by a Listed Power Adapter or DC power source, rated (1) 24 VAC, 50/60Hz, (Max. 10.5W); (2) 12VDC, (Max.10.5W); (3) 48VDC, (Max. 9.5W) for PoE, Tma = 50°C, and the altitude of operation = 2000m. If need further assistance with purchasing the power source, please contact AV Costar for further information.
Ensure the power cord connection of the power adapter to a socket-outlet with an earthing connection.

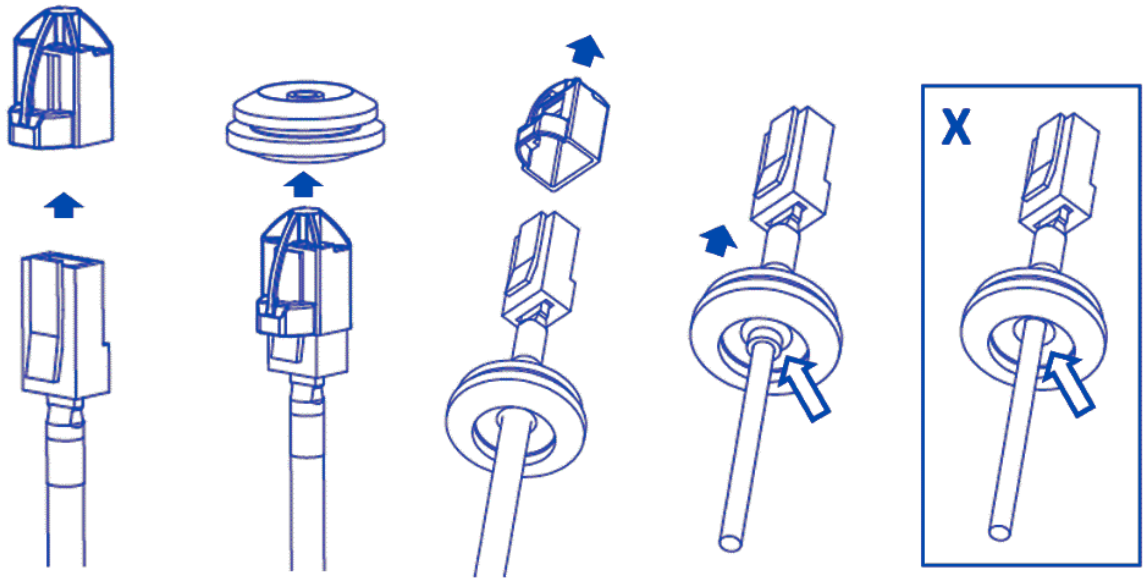
3. Connect the PoE switch to your computer's network port by using an ethernet cable.

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



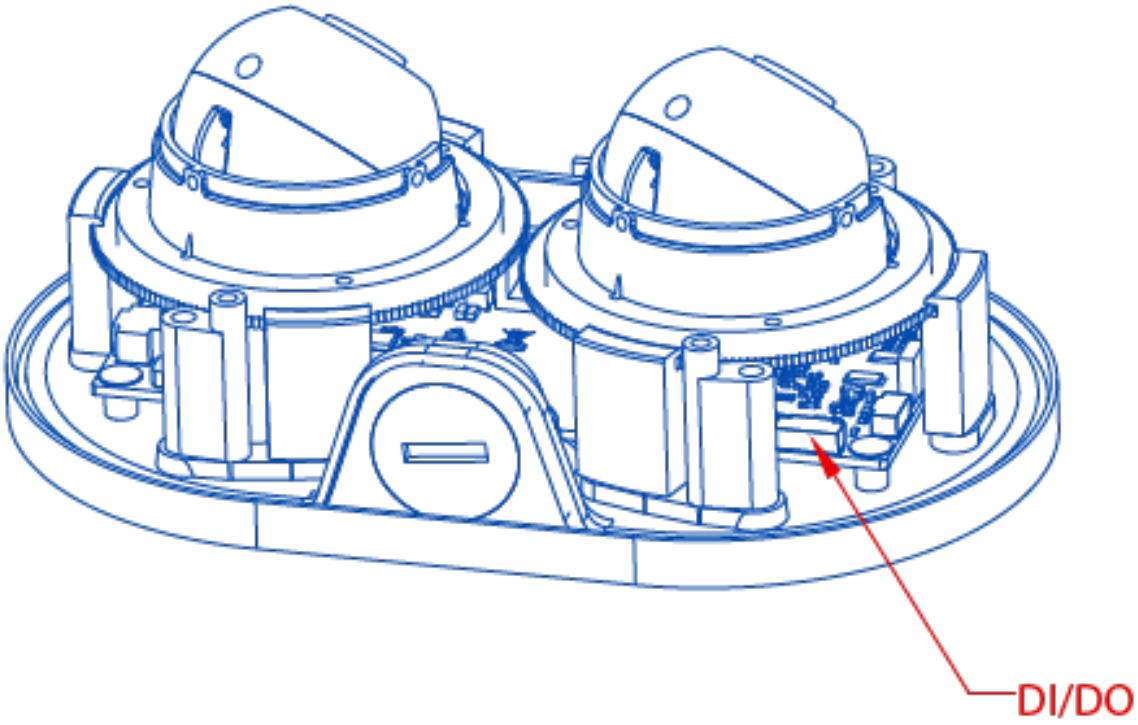
Usage of Ethernet cable other than included M/F PoE cable

1. Insert CAT 5E cable into Grommet Installation Tool.
2. If intending to use AC/DC power to power up the camera, insert the wire (not supplied) into grommet.
3. If intending to use I/O cable, insert the supplied cable into grommet.
4. Insert Ethernet cable with tool on it into the grommet as shown. Make sure the grommet is installed from the correct side.
5. Remove grommet installation tool.



NOTE: If using AC/DC power cable, I/O cable, or Audio cable, make sure to caulk the grommet to avoid water leakage.

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)

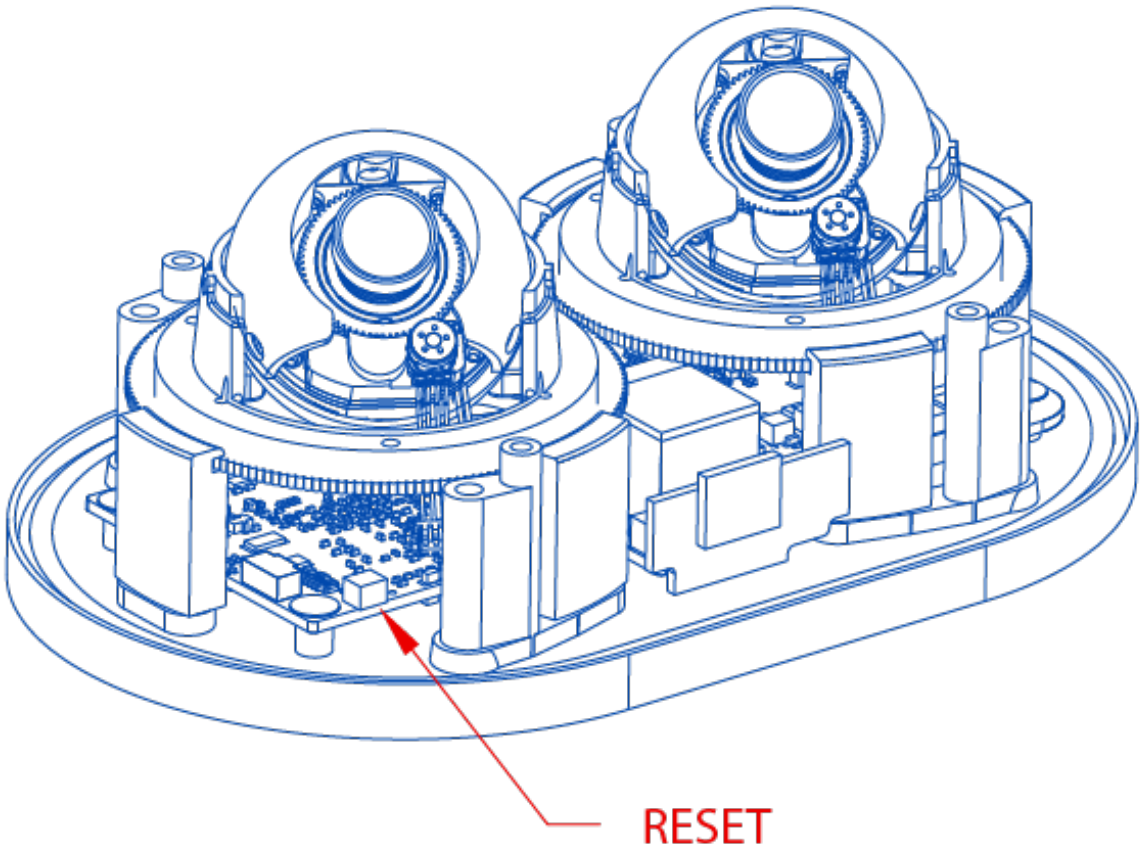
Reset to Factory Default

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.

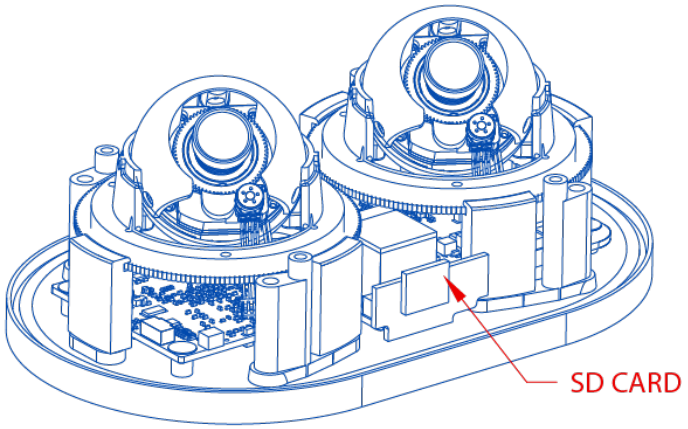
   This resets the camera to the factory default, and this resets the network settings to the factory default.



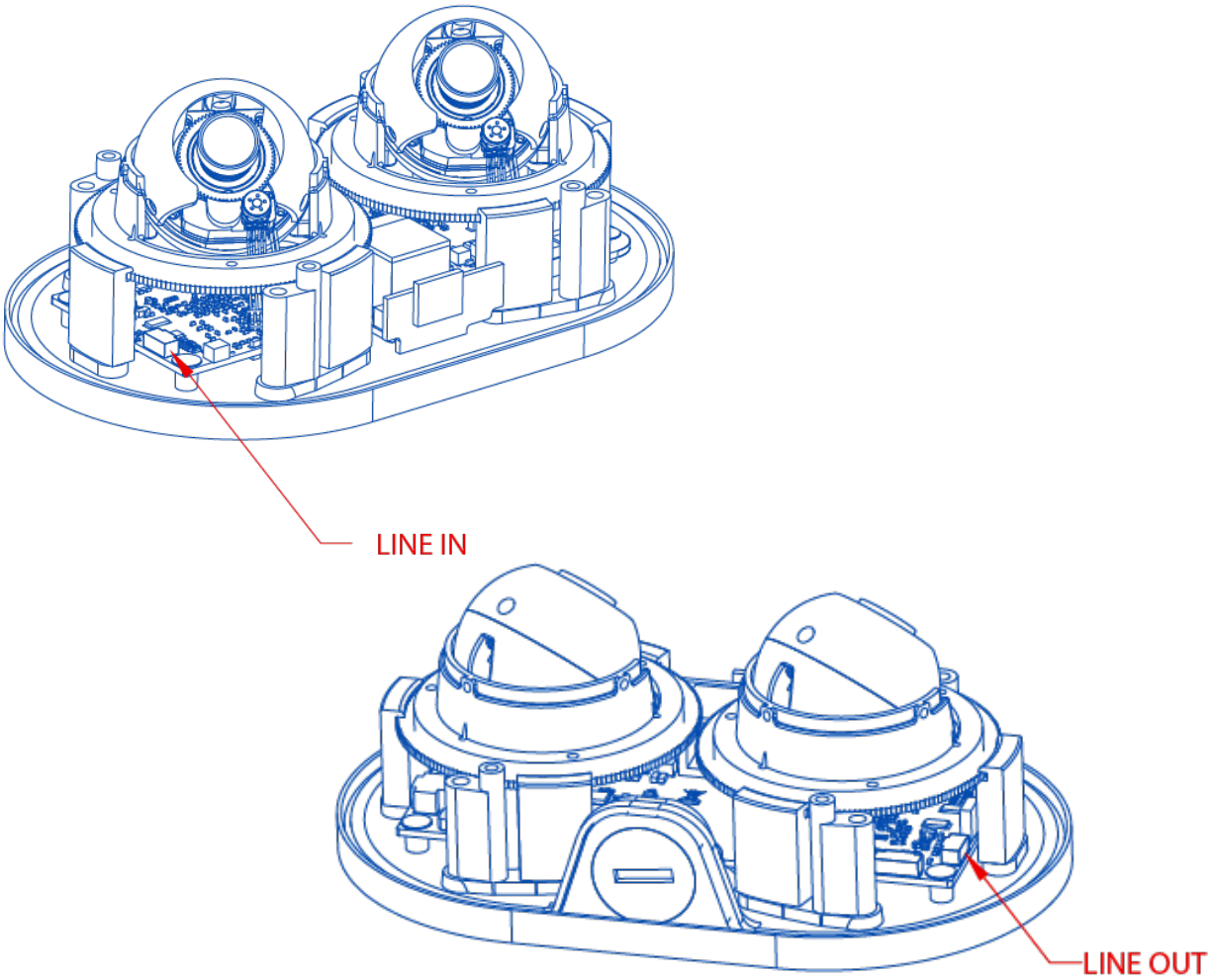
3. The User can also reset the camera to factory default via the camera web interface or the AV Costar Utility.

Audio/SD Card Info

- SD Card Slot



- Audio Connector



Camera Discovery, Setup, and Configuration

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

The AV Costar™ 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.

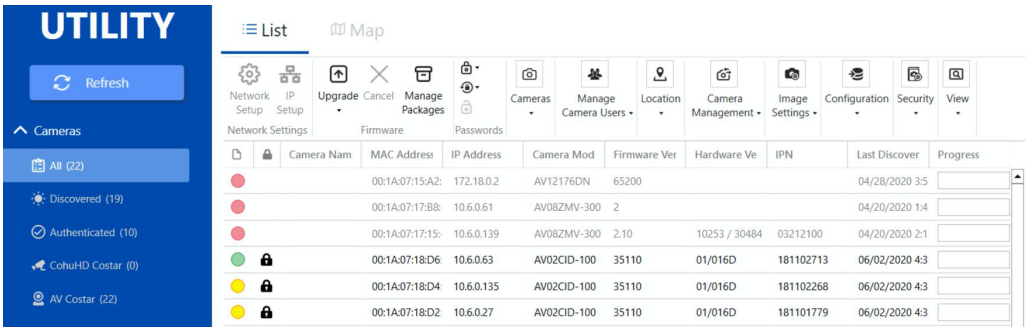
The AV Costar™ Utility tool is efficient and convenient for mass or single camera uploads whether used for large installations that require an update to multiple settings, or smaller installations where only one camera needs to be changed.

The AV Costar™ 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.

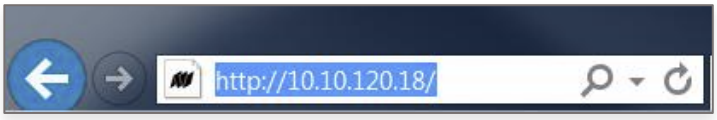
Camera Discovery

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

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

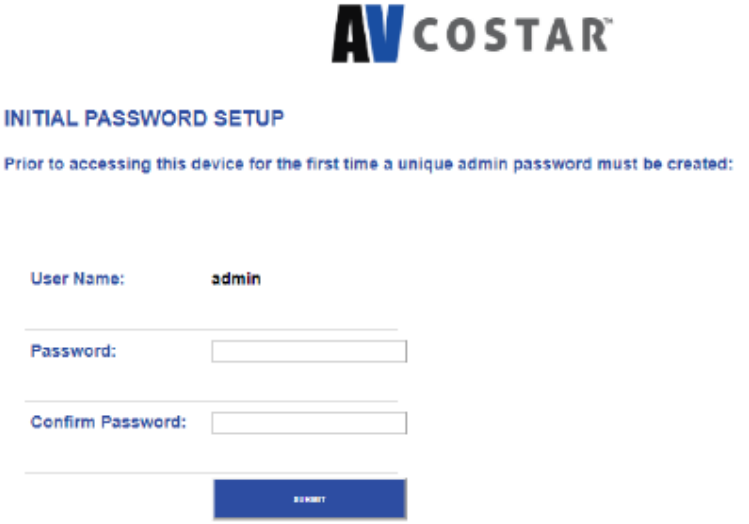


3. You can access the camera’s web interface by typing the camera IP address on the preferred web browser.



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

NOTE: A password must be entered before the camera can be used. To choose a password, visit the camera’s webpage or use the configuration utility.



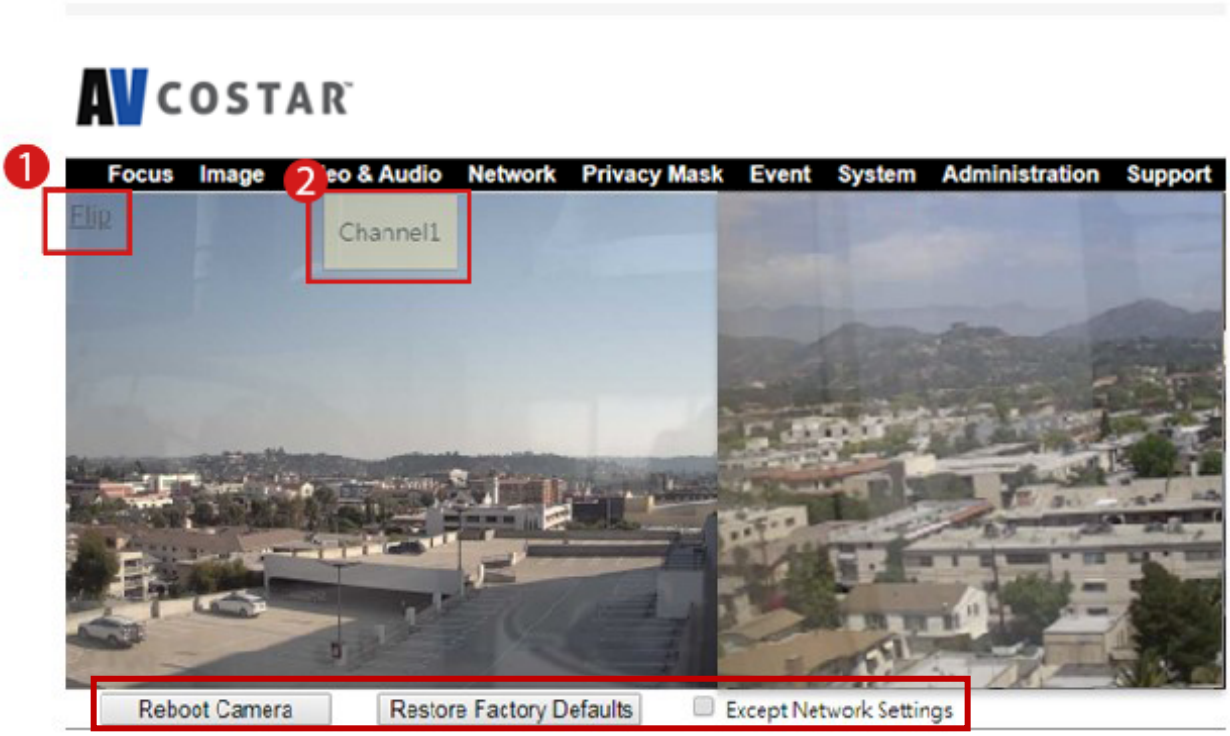
Prior to accessing this device for the first time a unique admin password must be created

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.

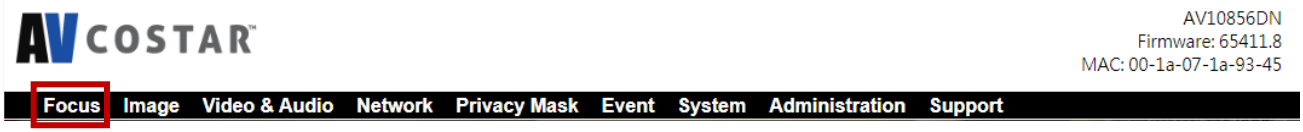
- **Focus**
- **Image**
  - Basic
    - Channel
    - Picture (Basic Image Settings)
    - Misc (AE Mode/AWB Mode)
    - WDR (Wide Dynamic Range) Mode
    - Day/Night Mode
    - Lighting Compensation Frequency
  - OSD (On-Screen Display)
    - General Setting
    - Text Overlay
  - ROI (Regions of Interest)
- **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**

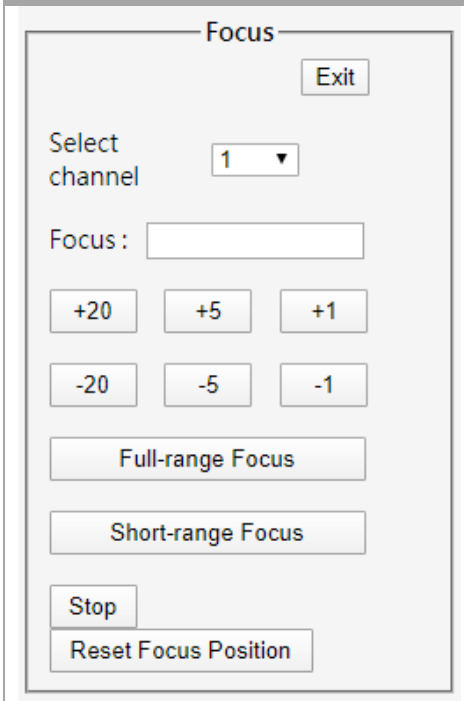
        - Motion Detection
        - Alarm Handler
        - Digital I/O
        - Tamper Detection
        - Network Failure
        - SD Card
        - FTP Upload
        - SMTP (Simple Mail Transfer Protocol) Notification
        - Network Storage
- **System**
    - Maintenance
        - Camera Information
        - Camera Name
        - Firmware Upgrade
        - Download Log
        - Reboot the Camera
        - Restore Settings
    - Date/Time
- **Administration**
    - Administrator settings
    - Viewer Management
- **Support**



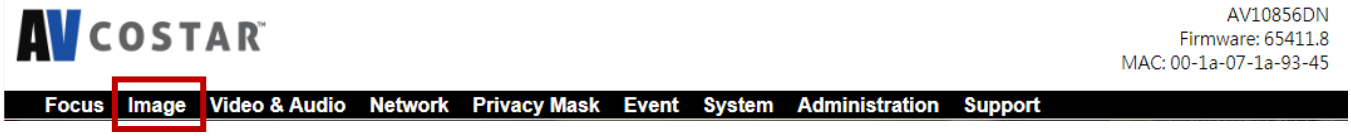
1. In the upper left hand corner, there is a Flip button that allows you to rotate images up-side-down (180 degrees) with reorienting the channel order.
2. You will be able to see the Channel number when you move the mouse over the image of the channel.
3. You will be able to reboot or restore the camera to factory default on Live View page.

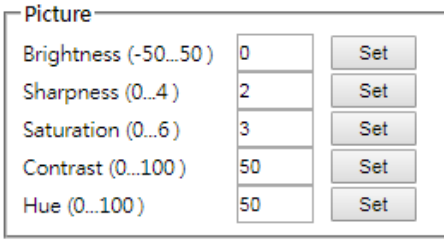
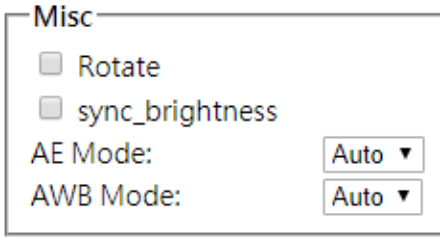
Focus

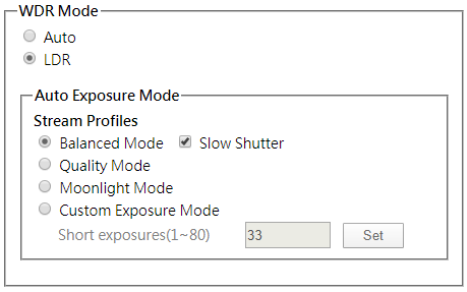


Menu	Feature	Description
	Select Channel	To control the remote focus via the web interface, double click the camera within the AV Costar Utility or open your preferred web browser and type the camera's IP address. ***NOTE: For supporting H.264 streaming on a webpage, the recommended browsers are Internet Explorer and Firefox.***
	Manual Focus: +20, +5, +1, -20, -5, -1	Number indicates the level of focusing in order to adjust the field-of-view.
	Full-range Focus	Full-range Focus button. The camera begins to autofocus with the lens stopping at the best overall point of focus.
	Short-range Focus	Best for scenes that are slightly of out of focus. The camera quickly fine-tunes for a precise focus position.
	Stop	Stops any command in progress.
	Reset Focus Position	Resets Focus lens groups to zero position.

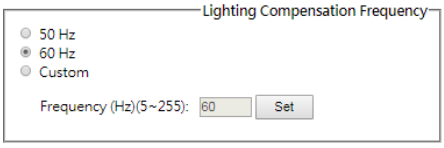
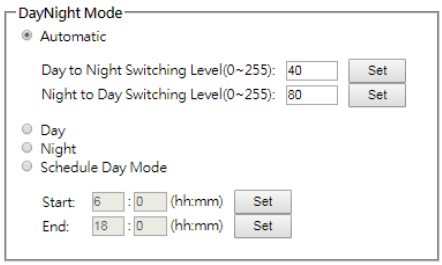
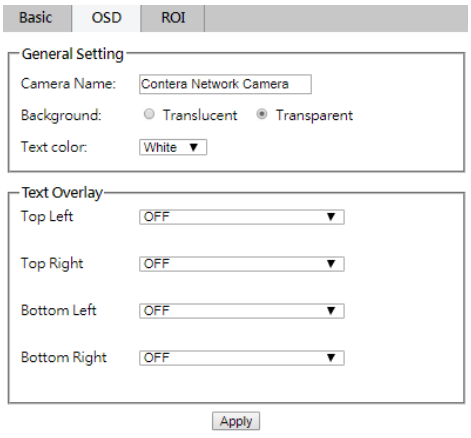
Image

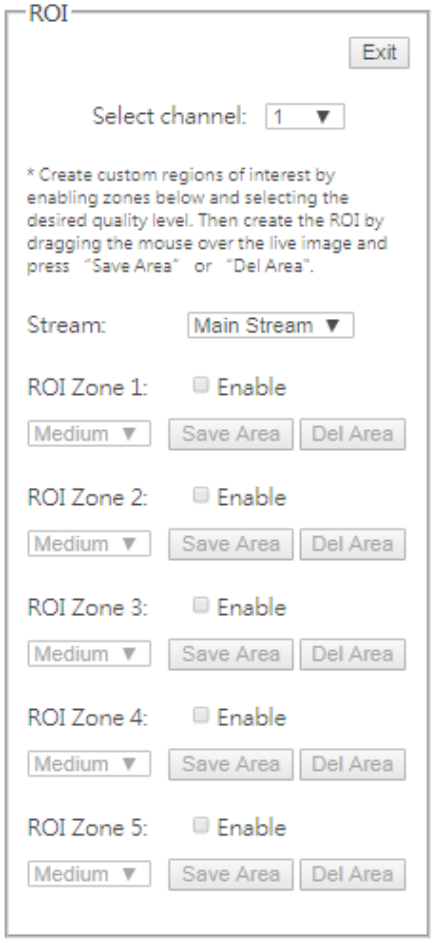


Menu	Feature	Description
	Select Channel	Select desired channel, 1-2. Click **Sync All Channels** to apply settings to all four channels.
	Brightness	Controls the overall brightness of the camera image and works in conjunction with the exposure controls to maintain the image brightness.
	Sharpness	Controls 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.
	Rotate	Enable the image rotation on each channel.
	Sync Brightness	Sync Brightness is selected, the Exposure Time Control and Gain Control are the same for all four channels.
	AE Mode (Auto Exposure 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	Enhances the dark areas by adjusting the gamma value.
	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.

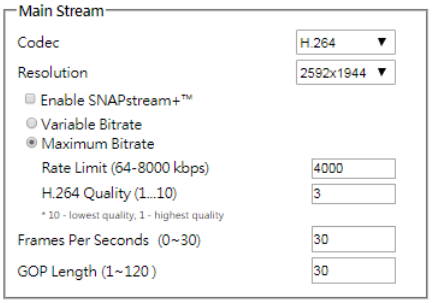
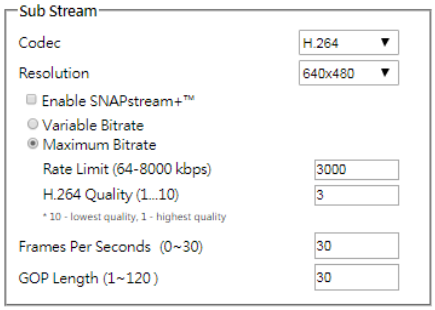


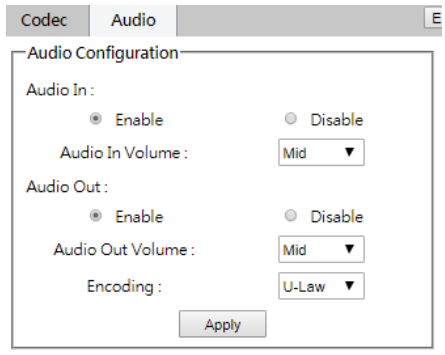
Stream Profiles: Balance Mode -Slow Shutter Quality Mode	**Balanced Mode**: Limits exposure time from 0.1ms to 66ms. The camera will keep highest FPS when **Slow Shutter** is unchecked. **Quality Mode**: Limits exposure time from 0.1ms to 200ms. This mode is a good compromise between reducing noise and 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.
Auto	Enhances the dark areas by adjusting the gamma value.
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.
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.
	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.

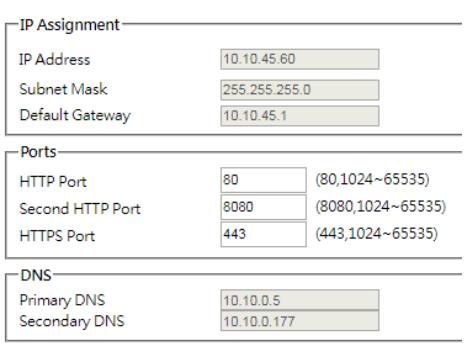
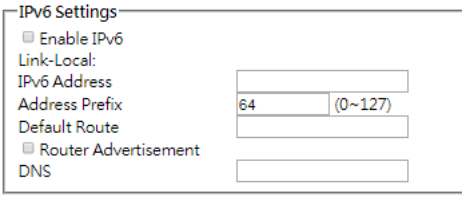
	ROI (Regions of Interest)	ROI (Regions of Interest) is used to select which areas will be monitored and recorded with higher image quality while using lower image quality for other non-ROI zones in order to save bandwidth and storage. To setup the ROI: 1. Select the desired channel 2. Select Main Stream 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

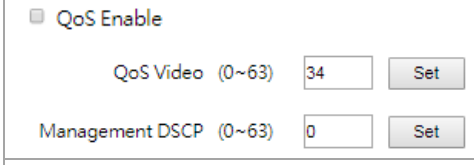
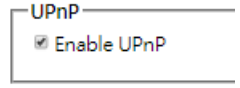
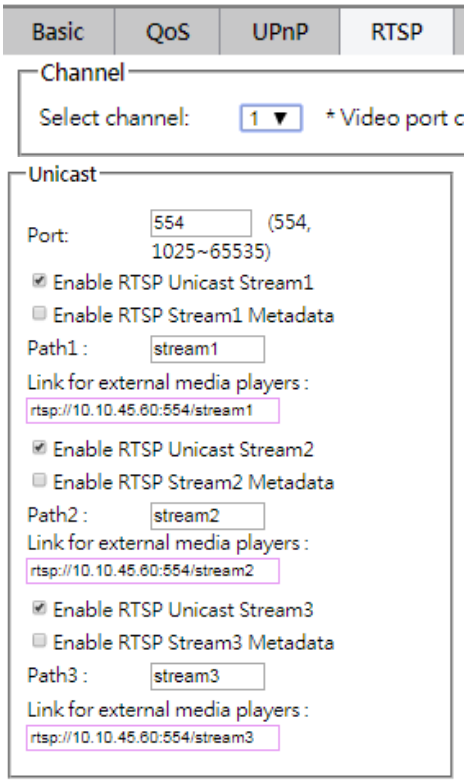
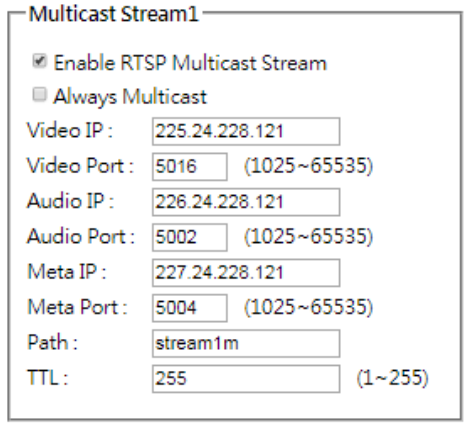
Video & Audio

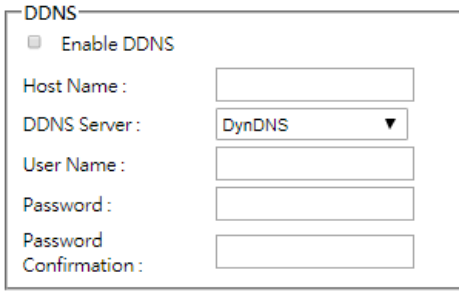
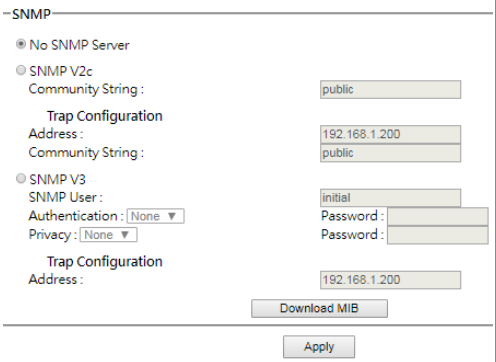
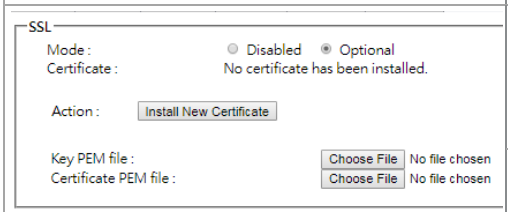
Menu	Feature	Description
	Select channel	Select the desired channel to change video settings or select Sync All Channels to change video settings for all four channels at once.
	Video Compression: H.265 / H.264	H.264 image quality setting for variable bit rate control. Setting a lower value results in higher image quality or setting a higher value results in lower image quality.
	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.
	GOP Length	Specifies how many frames exist between two consecutive I-Frames.
	Video Compression: **MPJEG**	The third stream is designed for the live view on web interface, and the only option of Video Compression is MPJEG.
	Resolution	The third stream is designed for the live view on web interface, and the only option for Resolution is VGA.

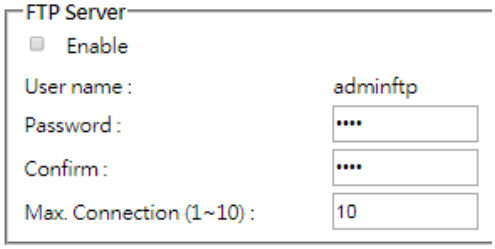
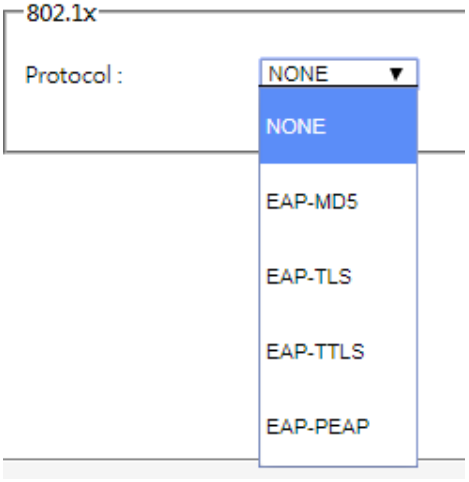
	Frames Per Seconds	Frame rate adjustment for the camera video stream.
	Quality: **Low / Mid / High**	Adjusts the compression level for JPEG images
	Video Compression: **MPJEG**	The third stream is designed for the live view on web interface, and the only option of Video Compression is MPJEG.
	Audio In Audio Out Volume Encoding	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.

Network

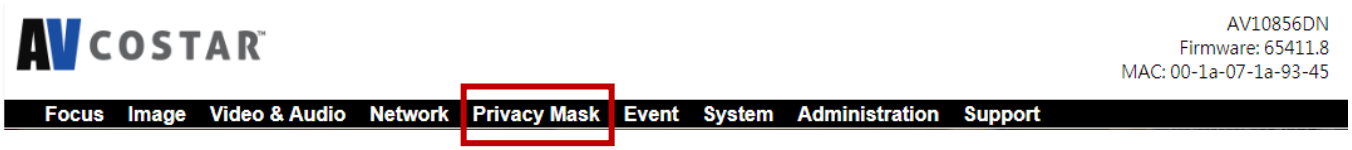
Menu	Feature	Description
	IP Assignment: • DHCP • IP Address • Subnet Mask • Default Gateway	**DHCP**: If checked, the camera will attempt to obtain its IP address from the DHCP server available on the network. **IP Address**: Sets the current IP address of the camera. **Subnet Mask**: Once set, the 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.

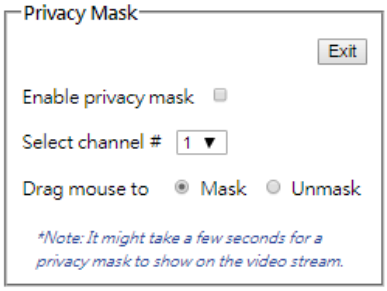
	Management DSCP	Sets DSCP value for non-video traffic.
	Enable UPnP	Enables Universal Plug and Play function.
	Select channel	Select the desired channel to change RTSP settings
	Enable RTSP Unicast Stream	Enables RTSP Unicast for stream 1 (Main stream), stream 2 (Sub Stream), and stream 3 (Third Stream)
	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.

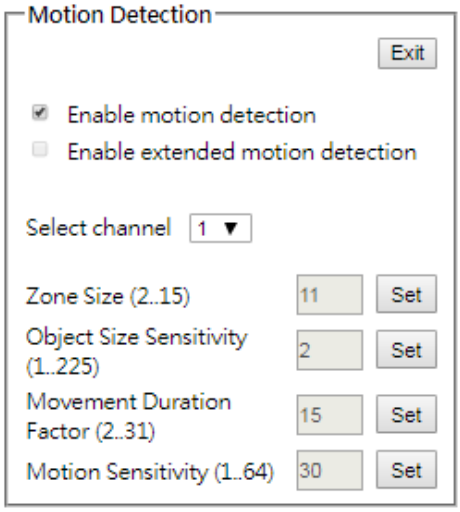
	Enable	Enables FTP access to the camera. ***NOTE:*** This function is only available when a SD card is installed. You can access files in the SD card via FTP.
	Password Confirm	Specifies and confirms the password to access the FTP.
	Max. Connection	Specifies the maximum number of FTP connections to the 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.

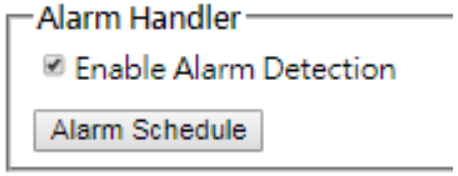
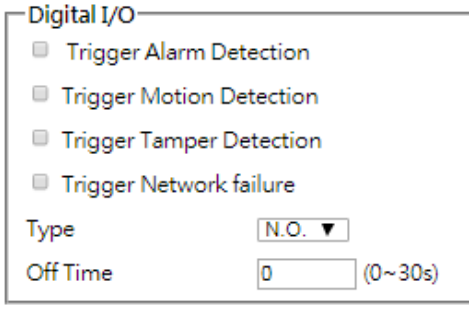
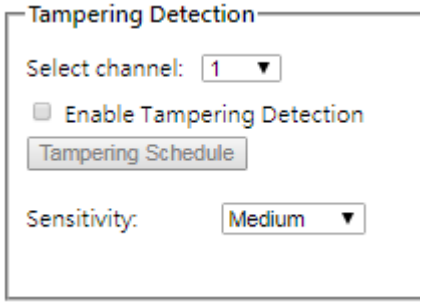
Privacy Mask

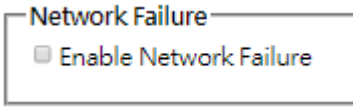
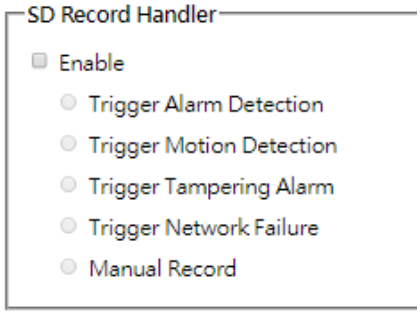
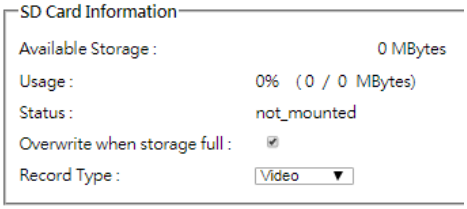


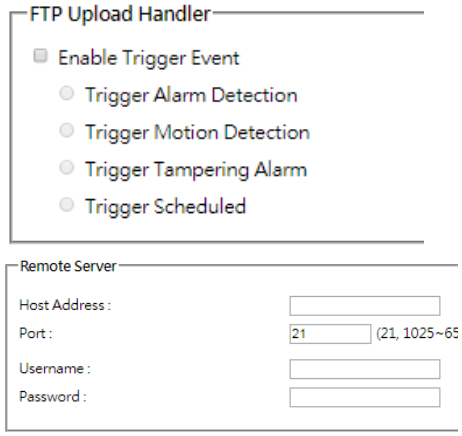
Menu	Feature	Description
	Enable Privacy Mask	Creates a privacy mask on the image so the selected areas will not be visible.
	Select Channel	Select the desired channel to add privacy masks.
	Drag mouse to: Mask Unmask	Select Mask to add privacy masks or Select Unmask to remove privacy masks.

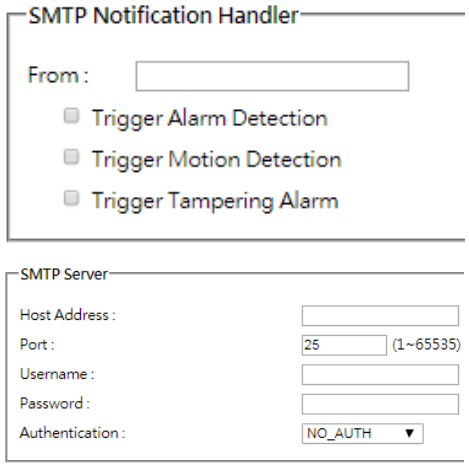
Event

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.
Event > Alarm Handler	Enable Alarm Detection	Enables Alarm Detection (Alarm In) function.

	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*

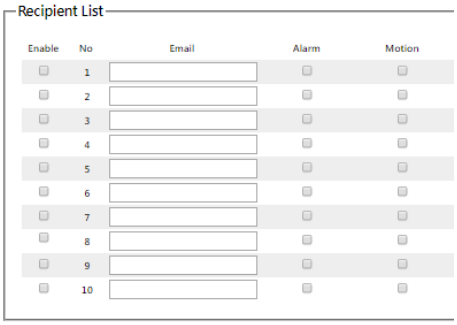
<table>
<tr>
<td rowspan="4">Event > FTP Upload
 
</td>
<td>Remote Server

Host Address</td>
<td>Host Address: Specifies the host name or IP address of the FTP server.</td>
</tr>
<tr>
<td>Port</td>
<td>Port: Specifies the port number of the FTP server.</td>
</tr>
<tr>
<td>Username</td>
<td>Username: Specifies the login username of the FTP server.</td>
</tr>
<tr>
<td>Password</td>
<td>Password: Specifies the login password of the FTP server.</td>
</tr>
<tr>
<td rowspan="2">Event > SMTP Notification
 
</td>
<td>SMTP Notification Handler</td>
<td>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.</td>
</tr>
<tr>
<td>SMTP Server
Host Address

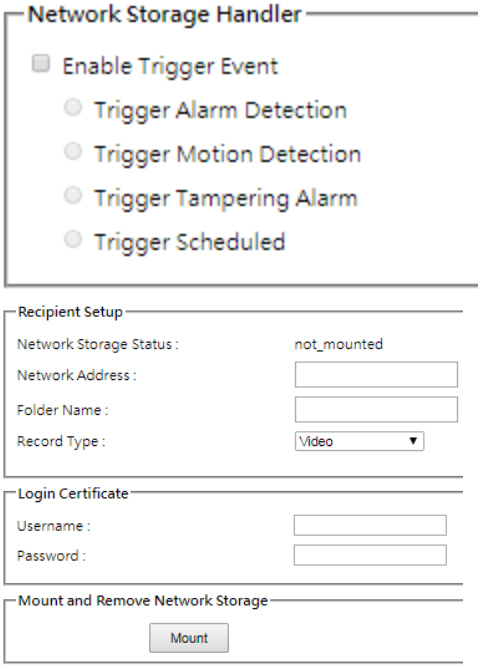
Port

Username

Password

Authentication</td>
<td>Host Address: Specifies the host name or IP address of the SMTP server.
Port: Specifies the port number of the SMTP server.
Username: Specifies the login username of the SMTP server.
Password: Specifies the login password of the SMTP server.
Authentication: Specifies the authentication mode of the SMTP sever. The options are NO_AUTH, SMTP_PLAIN, LOGIN and TLS_TLS.</td>
</tr>
<tr>
<td rowspan="3"> 
</td>
<td>Recipient List</td>
<td>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.</td>
</tr>
<tr>
<td>Network Storage Handler</td>
<td>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.</td>
</tr>
<tr>
<td>Recipient Setup

Network Storage Status</td>
<td>Network Storage Status: Displays the current status of the connection with the</td>
</tr>
</table>

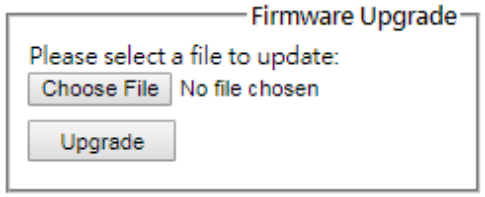
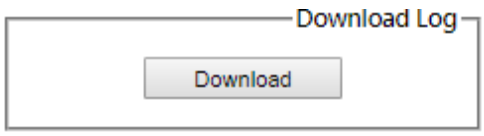
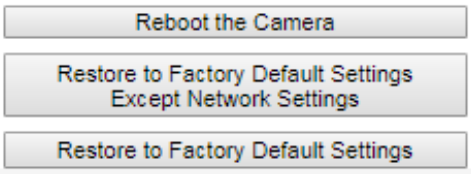
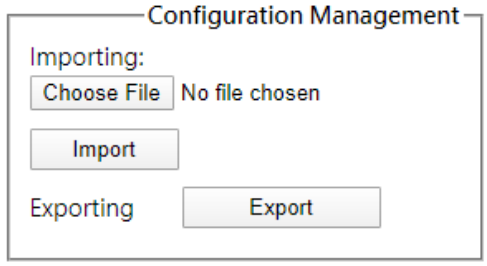
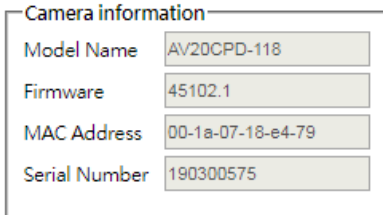
<table>
<tr>
<td> 
</td>
<td>Network Address

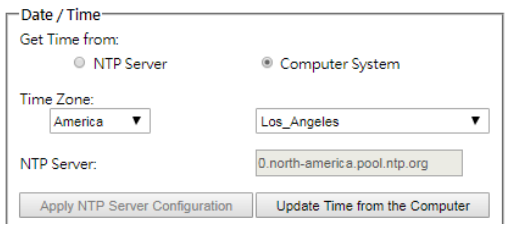
Folder Name

Record Type</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>Login Certificate</td>
<td>Specifies the login Username and Password for the network storage sever.</td>
</tr>
<tr>
<td></td>
<td>Mount Network Storage

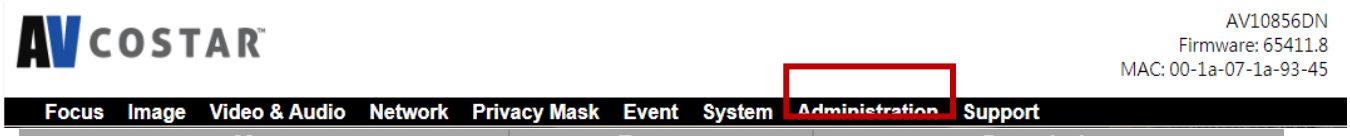
Remove Network Storage</td>
<td>**Mount**: Sets up a network connection with the network storage server. All the video recordings or snapshots from event triggers will be uploaded to the network storage server. After the setting is complete, the Network Storage Status field will display “ok”.
Remove: Deletes the previous setting. After the setting is removed, the Network Storage Status field will display “not mounted”.</td>
</tr>
</table>

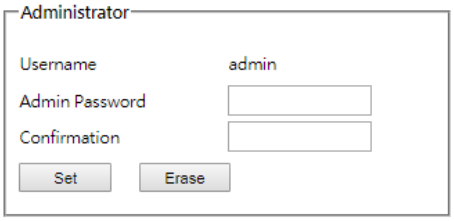
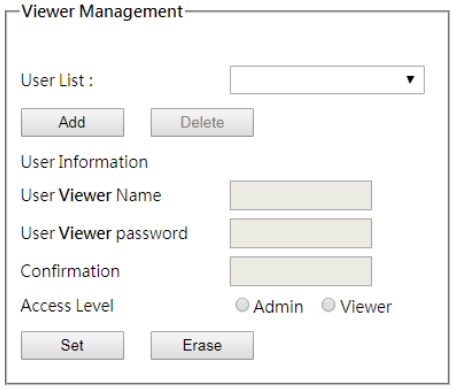
System

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 AV 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.
	Configuration Management	Records all the configuration information of the camera except network settings. Import a Configuration file from other cameras. Export a Configuration file from this camera.
	Camera information	Displays the information of the camera: Model Name, Firmware, MAC Address, and Serial Number.

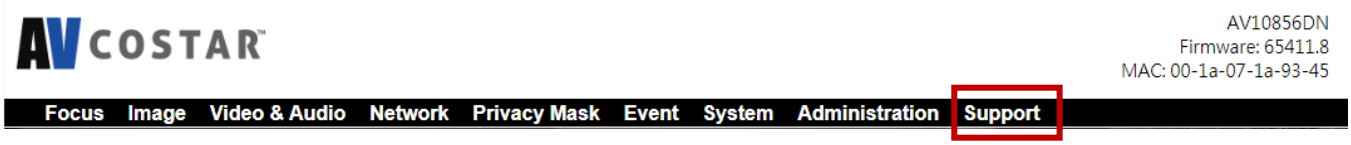
<table>
<tr>
<td rowspan="3"> 
</td>
<td>Date/Time
• Get Time from
• NTP Server
• Computer System</td>
<td>NTP Server: Synchronizes the date/time information with defined NTP server. After setting up the desired Time zone and NTP Server, click “Apply NTP Server Configuration”.
NOTE: Please make sure 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”.</td>
</tr>
<tr>
<td>Time Zone</td>
<td>Specifies the country / city of the time zone from the drop-down menu.</td>
</tr>
<tr>
<td>NTP Server</td>
<td>Specifies the desired NTP server</td>
</tr>
</table>

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 Costar Utility using the key file. Please contact AV 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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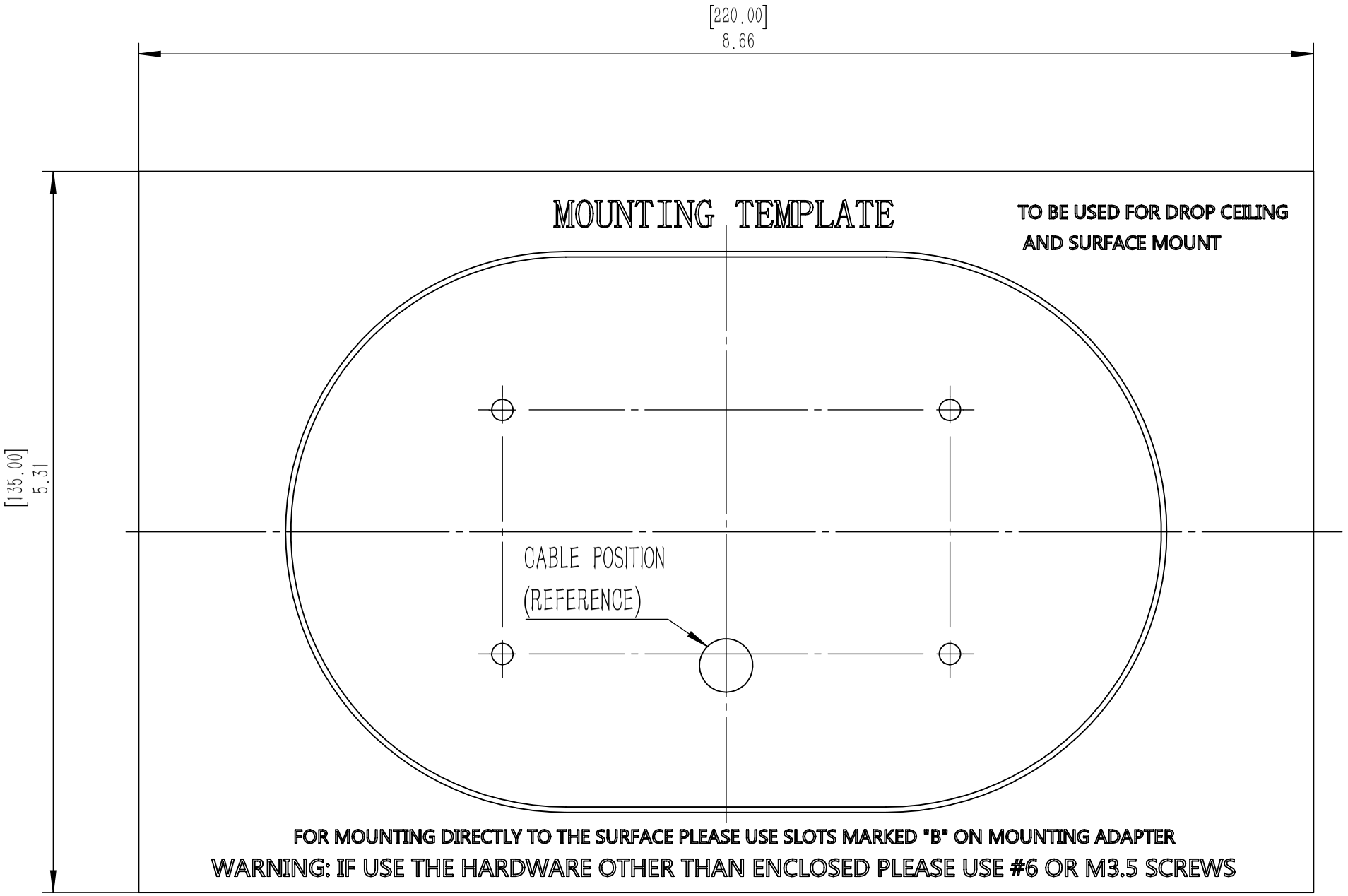

Paper Size: Letter