4MP UltraHD License Plate Reader ANPR POE Bullet Camera
User Manual

Version 1.0.0

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Welcome

Thank you for purchasing an Amcrest camera!

This user manual is designed to be a reference tool for the installation and operation of your camera.
Here you can find information about the camera's features, functions, and information to aid in troubleshooting.

For access to the quick start guide and other support information, go to http://amcrest.com/support
To contact Amcrest support visit http://amcrest.com/contact

Important Security Warning

To keep your Amcrest camera secure and prevent unauthorized access, please make sure to follow the steps below:



- Always make sure that your camera has the latest firmware as listed on www.amcrest.com/firmware
- Never use the default password for your camera. Always ensure that your password is at least 810 characters long and contains a combination of lowercase characters, uppercase characters as well as numbers.

Overview

This fixed lens 4MP license plate reader camera provides an optimal solution for surveying areas with high amounts of traffic and license plate information retention. The camera offers a super wide 8mm – 32mm" lens which provides a full 46.6° (W) ~ 17.4° (T) diagonal viewing angle. The camera features IR night vision with the use of 4 individual IR LEDs to survey the area at night. The camera can detect and capture license plate information from up to 98ft, both day and night to provide 24-hour license plate detection surveillance.

The camera requires a PoE+ connection. This connection provides both power and data to the camera using a PoE+ compatible switch. It includes AI features such as IVS, for advanced perimeter detection, defocus detection, as well as red/blue warning LEDs which can be used as an active deterrent.

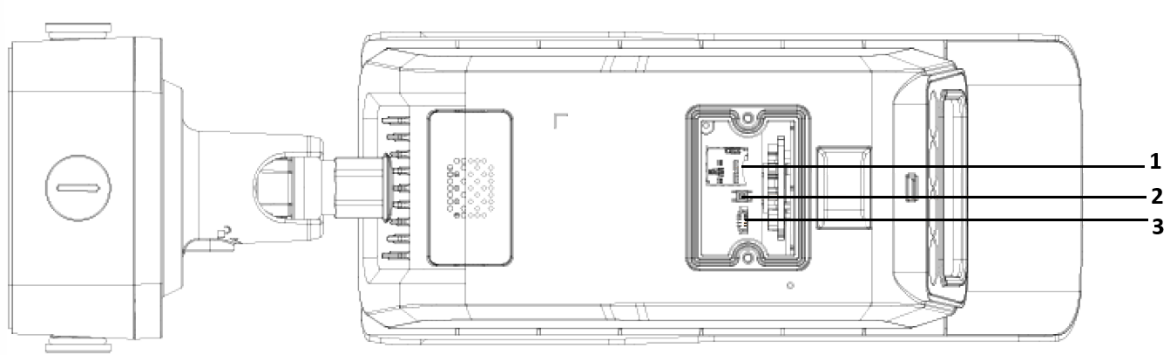
The camera can be accessed in most mainstream web browsers, however, for optimal use, it is highly recommended to **use IE mode in Microsoft Edge as most ANPR search options require the use of a .exe plugin for viewing or downloading images or reports**. However, the camera features flexible storage options to store snapshots to a microSD card (up to 256GB) or SFTP/FTP, all these features can be accessed and customized using a web browser.

Installation Guide

Before setting up your camera, please ensure the installation surface can support at least 3 times the weight of the camera.

Rear Panel

The panel on the bottom of the camera houses the microSD card slot, factory reset button, and debugging port. Use the included torx wrench to remove the panel.

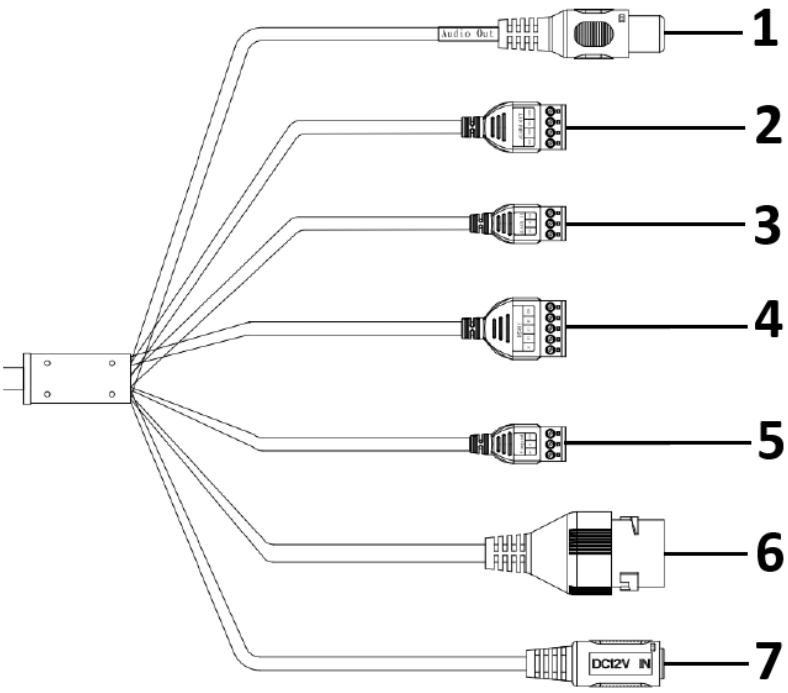


No.	Description
1	MicroSD card slot (Supports up to 256GB microSD card).
2	Factory reset button
3	Debugging port (internal use only)

Camera Installation

Before installing, please make sure the surface can support at least 3 times the weight of the camera. For more information, please refer to the installation guide included with this device.

Camera Wiring

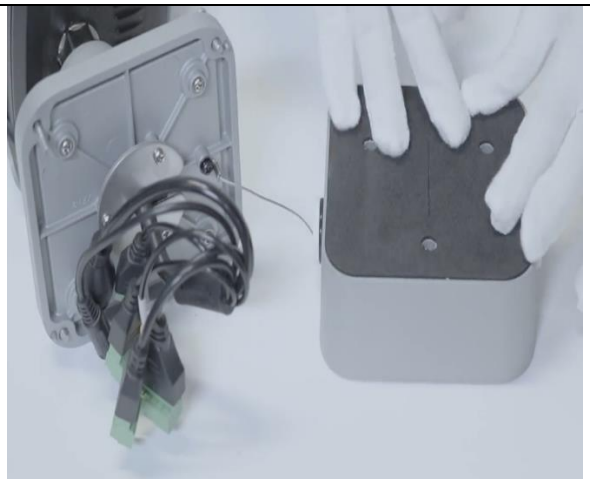


No.	Function	Description	Image

1	Audio Out	Connect an external RCA audio output device.	
2	Alarm Out	Connect to an external alarm output device.	
3	Alarm In	Connect to an external alarm in connection.	
4	RS-485	Serial communication port to connect a device that supports an RS-485 connection or protocol.	
5	Wiegand	Connect and send plate data to an access controller (if applicable)	
6	Ethernet Cable	Connect the camera to the network. Provides power and data using a POE+ connection.	
7	12V DC	Connect a 12V DC power supply. Do not connect to a power adapter if using POE+ to power the camera.	

Ceiling/Wall Mounting

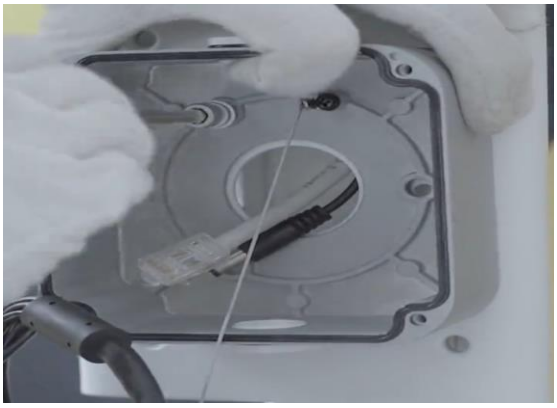
A drill with an 8mm diameter head as well as a wrench will be required to complete this process. The same concept can be applied as well if mounting to side wall or other similar mounting surface.

	
1. Place the installation sticker onto the mounting surface and drill the 3 holes provided on the sticker	2. Use the provided torx wrench to open the junction box. Remove the junction box from the camera and place the foam pad on the bottom of the junction box.

	
3. Place the wall anchors into the holes provided on the surface. Align the holes of the junction box to the wall anchors and attach the bottom of the junction box to the mounting surface.	4. Feed the network cable, power cord, etc into the corrugated pipe. Attach the waterproof connector and pipe to the side of the junction box and run the wiring inside and connect the wiring. **Note:** If POE+ is being applied, do not attach the power adapter connection.
	
5. Secure the camera back onto the junction box using the provided torx wrench. Adjust the angle of the camera using the lock/unlock screw provided on the bracket.	6. Ensure the camera is in the most adequate position and all wiring is secure and properly weatherproofed.

Pole Mounting

If mounting to a pole, please make sure the pole and installation area can support 3 times the weight of the camera. Pole mount will be sold separately.

	
1. Attach the pole mounting bracket to the installation surface and tighten the bolts to secure the bracket to the pole.	2. Open the junction box, run the wiring through the bracket, align the holes of the junction box to the mount and attach the box to the pole mount bracket.
	
3. Connect the wiring to the camera and secure it to the junction box using the provided torx wrench. Adjust the angle of the camera if needed. **Note:** If POE+ is being applied, do not attach the power adapter connection.	4. Ensure the camera is in the most adequate position and all wiring is secure and properly weatherproofed.

Initialization

The camera can be accessed in a web browser using an IP address. The IP address for your camera can be located using the Amcrest IP config tool. Before locating the IP address, please make sure the camera and the computer are on the same network. To download the Amcrest IP config tool, please visit amcrest.com/downloads and download the IP config software.

After obtaining the IP address, the camera can be initialized and viewed using most mainstream web browsers, such as Google Chrome, Firefox, Safari, Mircosoft Edge, etc., however some features, such as certain query or playback options may require the use of a .exe plugin. For an optimal experience it is highly recommended to use IE mode in Edge or other browser option that supports this function. To begin, enter the IP address for your camera into the browser.

Enter the password for your device into the interface and confirm, then click **OK** to proceed.

The default username for the camera is admin. Enter the username and password into the interface and click **Login**.

Using the Web UI

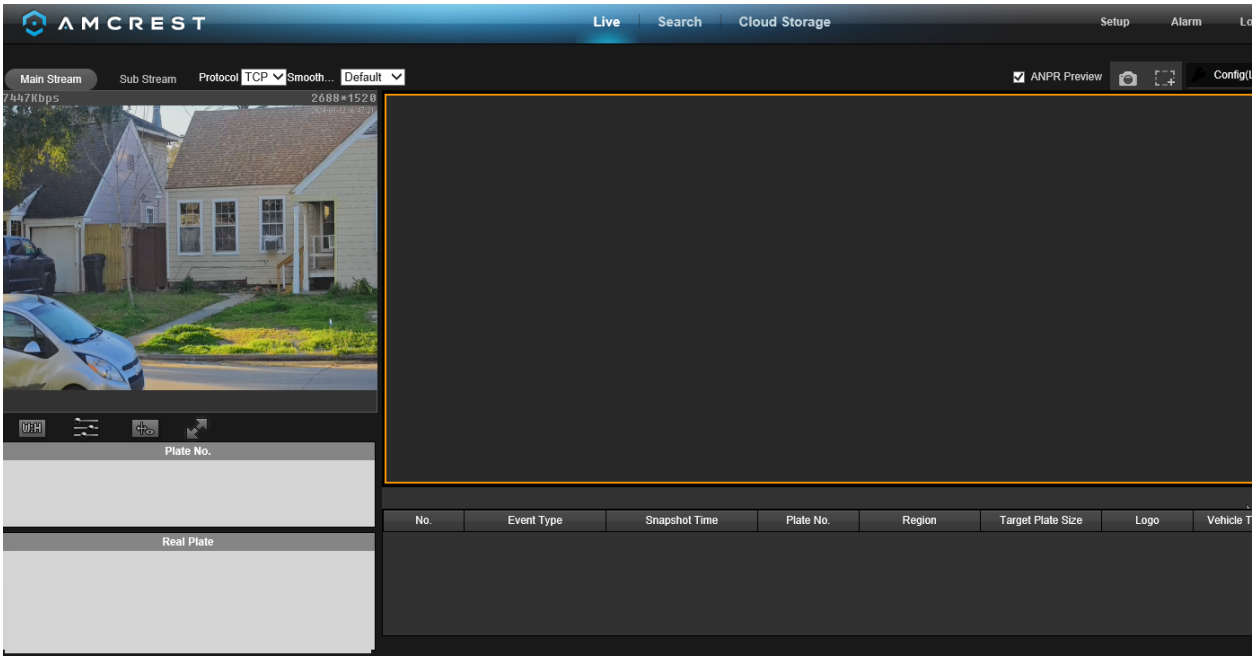
The web user interface (web UI) will be the recommended method for accessing your camera's settings. When initially accessing the web UI, please make sure the computer you are using is connected to the same network as the device.

For an optimal user experience, it is **best to use IE mode using Microsoft Edge, as some features may require the use of a .exe plugin**, however, other browsers such as Google Chrome, Mozilla Firefox, etc. maybe used if needed. After accessing the camera in the web browser, enter a password for the device, confirm, and click **OK**.

Enter the username (admin) and password you just set up into the interface and click **Login**. Please download and allow all plugins if accessing the camera in IE mode.

Live

By default, the interface opens to the Live tab. The live view tab allows the user to see the live feed of the camera as well as provides an area to view real time metadata captured by the camera and adjust configuration settings.

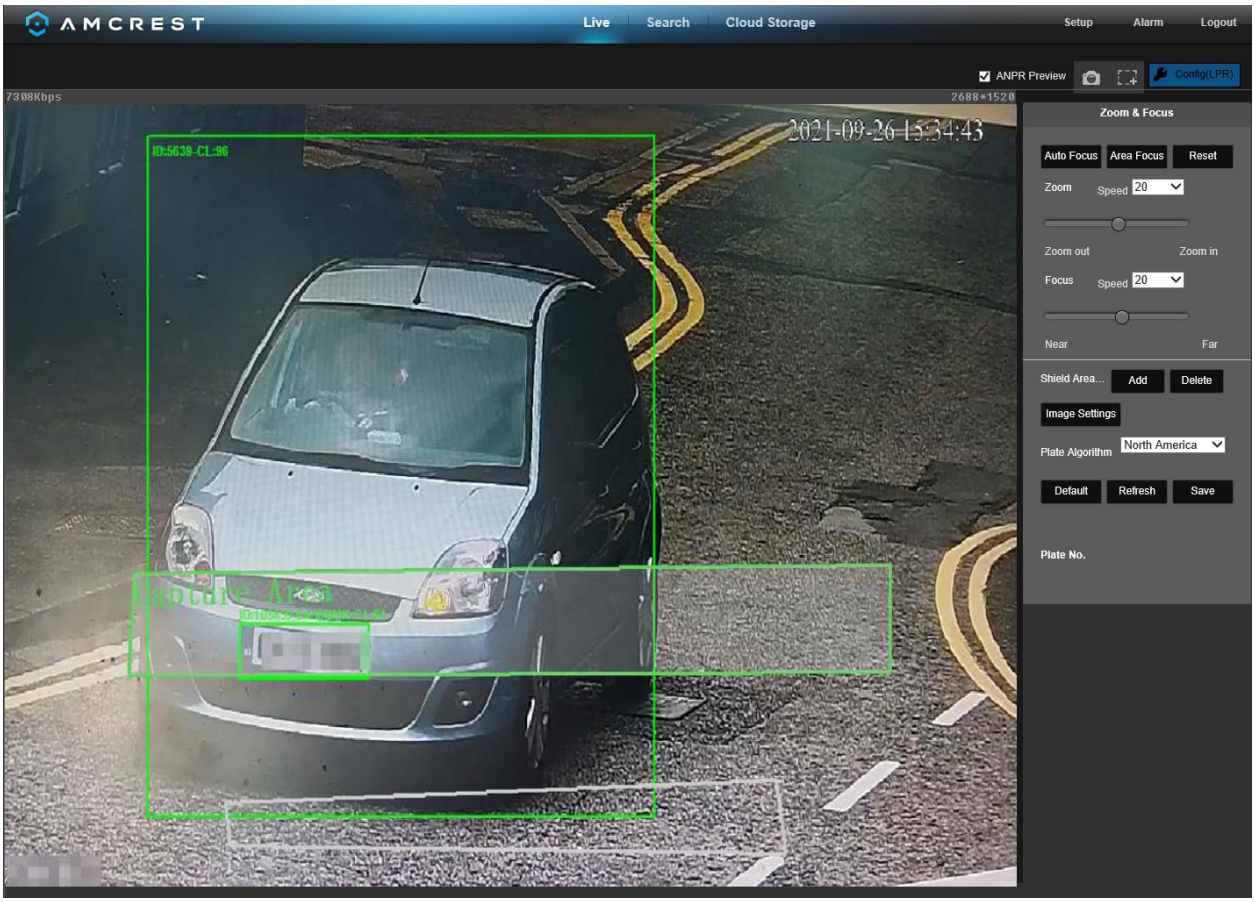


Mainstream: Displays the mainstream feed. The default resolution for mainstream is 4MP (2688*1520) @ 25fps)
Sub stream: Displays the sub stream feed. The default resolution for sub stream is704*480 (D1)
Protocol: Display the current TCP/IP protocol, the default protocol is TCP. **Only available in IE mode.**
Smoothness Adjustment: The larger the fluency of the stream the more delay is present however becomes more fluent. **Only available in IE mode.**
ANPR Preview: Automatically receives vehicle snapshots and detects event metadata. Must remain enabled.
Manual snapshot: Manually take a snapshot of the feed.
Digital Zoom: Use your mouse to highlight an area of the screen to zoom in on. **Only available in IE mode.**
Config LPR: Adjust focus, zoom, capture area, and other LPR settings.
W:H: Change the width/height ratio of the live feed.
Image Adjustment: Enlarge to adjust brightness, contrast, saturation, and hue.

IVS Overlay: Enable or disable the IVS pattern frame.
Full Screen: Click to enlarge the live feed to full screen.
Plate No.: Displays the plate number of a selected event.
Real Plate: Displays a screen shot of the selected plate.
No.: The event number retained in the interface.
Event type: The type of event retained in the interface (ANRP, Manual, etc.)
Snapshot Time: The time the event was captured and retained in the system.
Plate No.: The plate number (text) of the license plate or vehicle detected.
Region: The location of the event that was retained in the system.
Target Plate Size: The dimensions of the plate that were captured by the camera.
Logo: Displays the make of the vehicle detected.
Vehicle Type: Displays whether it was a car, truck, or other vehicle type that was detected.

Config(LPR)

This menu allows the user to adjust the focus, zoom, capture area, and other settings related to the ANPR camera. The camera will come default with the recommended capture area however can be adjusted if needed.



Below is a description of the features provided in this menu.

Auto Focus: Automatically adjusts the focus to optimal settings.
Area Focus: Use your mouse to adjust the focus of a specific area of the live feed.
Reset: Restore all zoom and focus settings to default values.

Zoom: Use this slider and speed options to zoom in or zoom out in the detection area.
Focus: Use this slider to manually focus the lens on a near or far configuration.
Shield Area: Create an area on the screen in which the camera will not detect events. Click Add and use your mouse to draw a region on the interface. Use the Delete option to delete the region.
Image Settings: Provides quick access to the general image configuration settings.
Illumination: Automatically be taken to the general settings menu to adjust color night vision settings.
Plate Algorithm: The current algorithm used to detect license plates. The default will be North America.

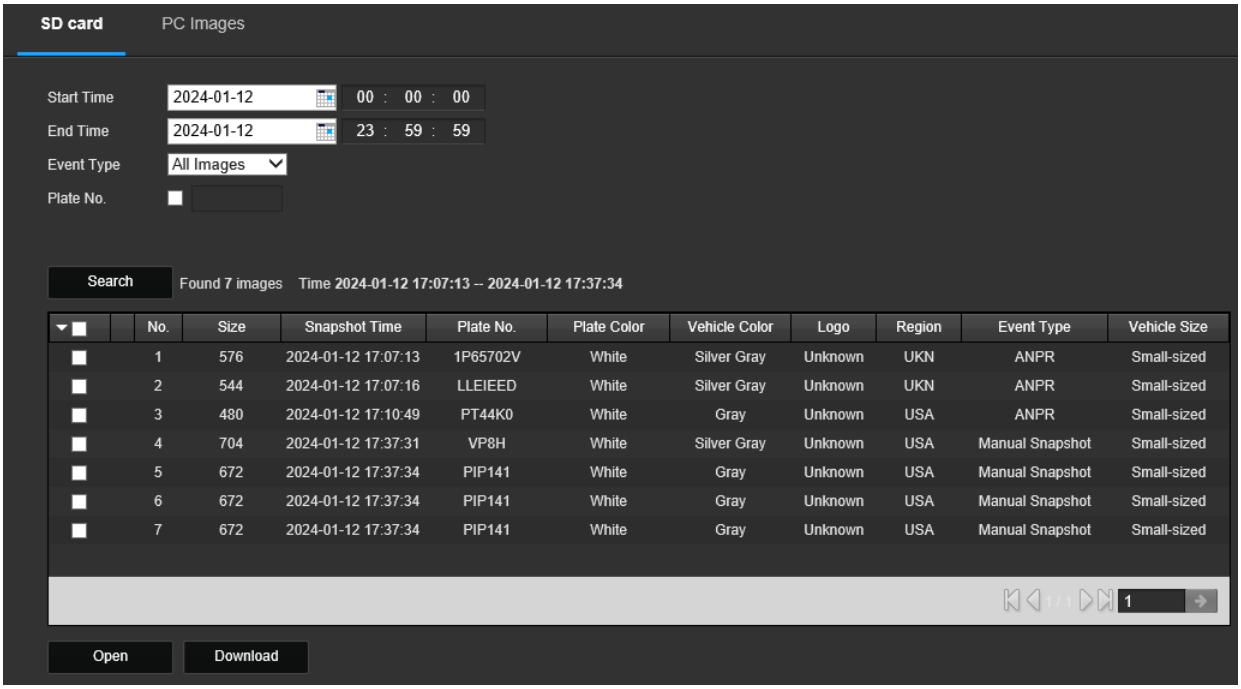
To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Search

The Search menu allows the user to search for events, snapshots, and export plate logs (reports). Please note, the features provided in this menu will require the use of a .exe plugin**. To use these features, please make sure to use IE Mode in Microsoft Edge for optimal use**.

Image Search

The image search menu allows the user to search, view, and download events to your computer. To search for events (ANPR or Manual events) retained on your camera, use the calendar option to select a specific date and time of the event. Select the Event Type, if needed and click search to display all the events retained on the MicroSD card.

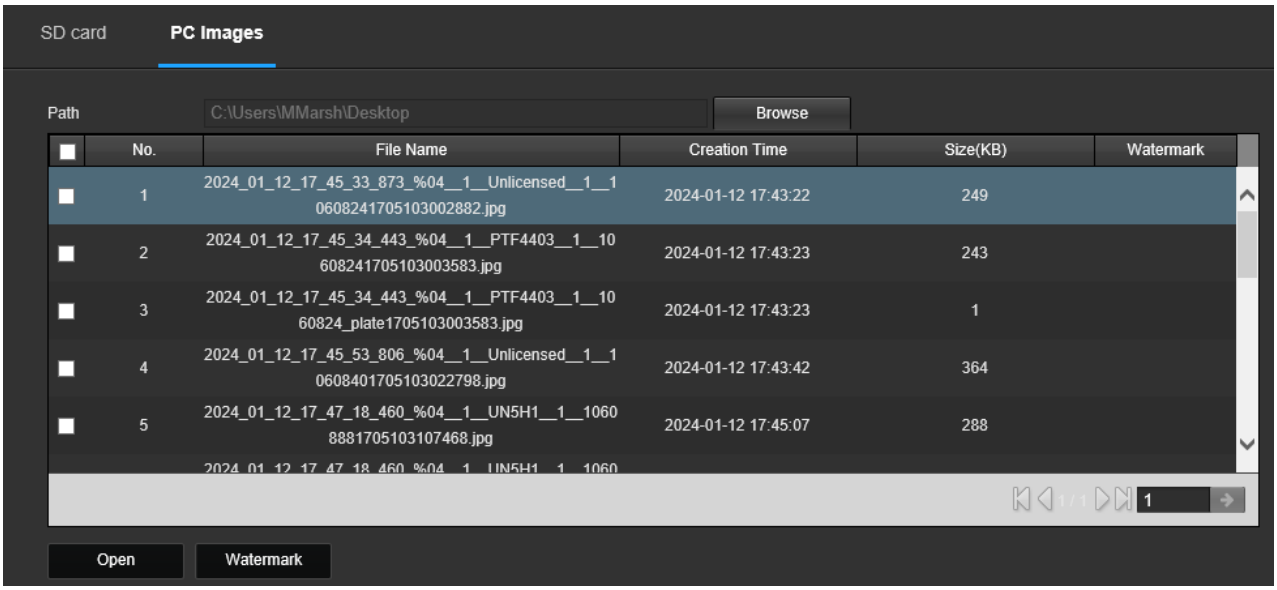


Note: If you are searching for a specific plate number, click on the Plate option, enter the plate number into this field and click Search. To display a snapshot of the Real Plate Info, select the event from the list of events.

To open an event, select an event or events from the event list and click Open. A .jpg will be displayed showing a snapshot of the event. To download an event, select the event from the events list and click Download. Select download path for the event and click OK. The .jpg file of the event will be stored to your computer.

PC Images

The PC Picture menu allows the user to search and view snapshots that have been stored to a local file path on your computer. To use this feature, click **Browse** and locate the folder in which snapshots are being retained on your computer and select **OK** to import the snapshots into the interface.



To open an image, select an event or events from the event list and click Open. Click **Watermark**. The camera will verify whether the picture has watermark and displays the results on the event list under **Watermark.**

Plate Logs

The **Plate Logs** menu allows the user to search and export events from a specified period. The plate logs can also be filtered by direction (ANPR Direction) if needed. To search for a log, use the provided calendar option to select a begin time and end time. Click **Search** to view the log.

To export a .csv (excel sheet) of the log, click the **Export** button. Choose a file path in which the .csv will be downloaded and click Save to export the log sheet. The file name by default is "TrafficSnapEventInfo" locate this file and open it to view event log information.

Alarm Logs

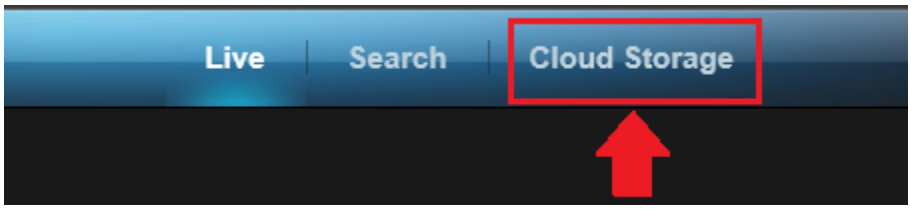
The **Alarm Logs** menu allows the user to search and export external alarm event logs from the system to your computer. Like the plate logs, a .csv (excel sheet) of this information can be generated and saved to your computer.

To export this information, use the calendar option provided in the interface and enter a begin and end time. Click Search to view the log. To export a .csv (excel sheet) of the log, click the **Export** button. Choose a file path in which

the .csv will be downloaded and click Save to export the log sheet. The file name by default will be "TrafficAlarmOutRecord". The same concept can be applied when using the export by time option if needed.

Cloud Storage

The Cloud Storage tab allows the user quick access to the Amcrest Cloud website.



At this website (amcrestcloud.com) users can register for new accounts as well as view or modify existing accounts. For more information on Amcrest Cloud visit: amcrest.com/cloud

Setup

The Setup tab allows the user to modify and update settings related to the overall functionality of the camera.

ANPR

The ANPR menu allows the user to set and adjust general ANPR settings. This includes settings such as snapshot, block/allow list, device tests, etc.

Snapshot Setting

This menu allows the user to set general parameter options for snapshots taken by the camera. These include snapshots that are manually taken by the camera as well as ANRP. Below is a description of the options provided in this menu.

General Parameters

Snapshot Quantity: The number of snapshots that are retained once an event is detected.
Driving Direction to Trigger Snapshot: Set whether the event will be triggered if the vehicle is approaching, departing, or coming either way.
Same Plate Filtering: The amount of delay, in seconds, in which the same license plate will be detected.

Parameters

Scene: Select which vehicle types can be detected in the scene. Choose between small or large vehicles.
Unlicensed Motor Category: Detect vehicles with or without license plates. Unlicensed plates will be enabled by default.
Frames to Output License Vehicle Snapshot: Configure the frame number of capturing licensed vehicle. **1** (default) means to capture when detecting one frame of licensed vehicle passing detection area.
Frames to Output Unlicensed Vehicle Snapshot: Configure the frame number of capturing unlicensed vehicle. **20** (default) means to capture when detecting 20 frames of unlicensed vehicle passing detection area.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

AI Settings

This menu allows the user to set vehicle parameters and AI attributes such as vehicle types, sign, vehicle color, etc. Below is a description of the options provided in this menu.

Target Direction

Vehicle Detection Sensitivity: Set the sensitivity of vehicle detection. The higher the value, the more sensitive the detection.

AI Attribute Settings

AI Attribute Settings: Select parameters such as vehicle type, car series, vehicle sign and vehicle color which can be recognized by the camera.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Scene

This menu allows the user to configure the advanced functions of plate recognition, mounting heights, and positions.



Select detection scene as needed.

Head first: Higher recognition sensitivity towards plate on head.
Tail first: Higher recognition sensitivity towards plate on tail.
Bicycle (electric bicycle or motorcycle): Higher recognition sensitivity towards electric bicycle or motorcycle plate.
Height: Higher recognition sensitivity when the camera is installed on higher place.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

OSD Info

This menu allows the user to set OSD overlay information such as font size, channel titles, time titles, or custom titles. The overlay can be placed in different areas of the live view screen. Use your mouse to place the "Image Title" overlay in a desired area of the screen and click **Save**.

Live Stream OSD

This menu allows the user to set OSD overlays on the live view screen such as a channel title, time & date title, abnormal event title, or set a custom OSD overlay.

Font Size: Set the font size of the text located in the snapshot overlay.

Channel Title

The channel title menu allows the user to customize and set font sizes for an OSD text overlay title on the live view screen.

Enable/Disable: Enable or disable the channel title overlay on the live view screen.
Channel Title: Edit and set text for the OSD overlay.
Area Coordinates: Set the X and Y coordinates of the OSD overlay on the live view screen.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Time Title

The time title menu allows the user to set or modify the date & time overlay on the live view screen.

Enable/Disable: Enable or disable the date & time overlay on the live view screen.
Week Display: Display to the day of the week in the time title overlay.
Area Coordinates: Set the X and Y coordinates of the OSD overlay on the live view screen.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Abnormal Event

This menu allows the user to set abnormal event overlays to be displayed on the live view screen, such as defocus detection or other abnormalities set on the device once the events are enabled or triggered by the camera.

Enable/Disable: Enable or disable the abnormal event overlay on the live view screen.
Area Coordinates: Set the X and Y coordinates of the OSD overlay on the live view screen.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Custom

This menu allows the user to set up to three custom text overlays on the live view screen. To set additional custom overlays, click the "+" icon and enter text for the custom title into the box and click save. To remove a custom title, click the "x" icon.

Enable/Disable: Enable or disable the custom title overlay on the live view screen.
Area Coordinates: Set the X and Y coordinates of the OSD overlay on the live view screen.
Custom Title: Enter text for the custom title into this box.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Snapshot OSD

The snapshot OSD menu allows the user to set OSD overlays for specified snapshot events detected by the camera. This allows you to set font sizes, OSD options for specific areas, as well as a custom color.

Font Size: Set the font size of the text located in the snapshot overlay. For more options, click **More**.
OSD Separator: Set a blank, vertical, or custom separator.
Recommend Overlay: Import recommended information into an overlay.
Time: Display time stamp details into the snapshot overlay.
Location: Display the IP address of the device in the snapshot overlay.
Plate No: Display the license plate details into the snapshot overlay.
Vehicle Color: Add the color of the detected vehicle into the snapshot overlay.
Day: Works with time to display the day of the week into the snapshot overlay.
Anti-Counterfeit: Displays a error code if the vehicle detected is
Vehicle Make: Display the make of the vehicle detected into the snapshot overlay.
Trigger Source: Display the source of the snapshot, such as ANPR or Force (Manual).
Vehicle Type: Display the type of vehicle detected into the snapshot overlay.
Direction: Display the direction in which the vehicle detected is displayed in the snapshot overlay.
Region: Displays the country in which the vehicle was detected in the snapshot overlay.
Confidence Level: Displays the plate ID and vehicle ID of the vehicle detected in the snapshot overlay.
Vehicle Front…: Displays the area of the vehicle that was detected into the snapshot overlay.
Custom: Create a custom text overlay that will be placed into the snapshot overlay. To create a custom overlay, select Edit, and click on the overlay option in the interface. Enter the text into their respective fields and click Yes to save.
Insert Forward: Choose whether the oldest selected overlay comes before the newest selected overlay.
Insert Backward: Choose whether the oldest selected overlay comes after the newest selected overlay.
Modify: Choose an overlay from the overlay list. Enter the changes you would like to make into their respective fields and click **Yes** to edit.
Delete: Check an overlay from the overlay list to remove it from the list.
Clear: Clear all overlay options from the snapshot overlay interface.
Line Feed: Insert a new snapshot OSD into the interface.
Custom Font Color: Create a custom color for the text in a selected snapshot overlay.
X/Y: The coordinates of the overlay located in the snapshot overlay.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Cutout

This menu allows the user to have a cutout image of the plate and snapshot of the whole vehicle to a designated storage path. Both options can be enabled if needed. Below is a description of the features in this menu.

Enable: Allow a snapshot of the cutout type to be sent to a designated storage path.
Motor Vehicle: Choose whether to send only snapshots of the plate details or entire vehicle images.
Plate No.: Send a snapshot of the plate details
Vehicle Body Cutout: Send a snapshot of the entire vehicle detected by the camera.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Plate Overlay

This menu allows the user to enable and adjust the PIP plate overlay located in a snapshot image. Below is a description of the of the features in this menu.

Enable: Enable or disable the PIP plate image overlay in the snapshot.
Overlay Position: Choose whether the PIP image of the plate will be in the top left, top right, lower left, or lower right corner of the snapshot.
Overlap Size: Choose whether the PIP plate image in the snapshot is small, medium, or large.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Blocklist and Allowlist

This menu allows the user to add vehicles into an allow or block list. An allow list allows the camera to not trigger an event if a certain vehicle and its plate details are detected by the camera. A blocklist allows the camera to trigger an alarm if a specific vehicle is detected by the camera.

Allow list

This menu allows the user to search and add plate numbers into a list that will allow the camera to not trigger an event if the vehicle is detected. Below is a description of the features in this menu.

Plate No.: Search whether a specific license plate number has been added into the list. Enter the plate number into this field and click **Search** to find the records.
Add: Select this option to add plate numbers, card IDs, vehicle owner, as well as schedule a time of day in which the filter will apply. To add more vehicle data into the list select the **Continue Adding** option. Click **Save** to apply.
Browse: Allows the user to download or import a list of vehicle data into the interface. Click Download to download a current list template (.csv) to your computer. To import a list, click **Browse** and select the .csv file from your computer. Click **Save** to apply the settings and import the list.
Export: Enable or disable export encryption. This will be disabled by default however exporting without encryption may have security risks.
Clear Expired Data: Deletes all list data saved in the list interface.
Clear: Clears all data from the list interface.
Fuzzy matching: Enable this option to allow the camera to apply the list rules if the license plate data detected is not in focus, or fuzzy, and matches the vehicle data entered in the list. Use the additional match rules if such as missing first or last character, allow misread characters, etc. Use the Add Pairs (+) option to add specific characters into the interface that can be misread or fuzzy.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Blocklist

This menu allows the user to search and add plate numbers into a list that will allow the camera to not trigger an event if the vehicle is detected. Below is a description of the features in this menu.

Plate No.: Search whether a specific license plate number has been added into the list. Enter the plate number into this field and click **Search** to find the records.
Add: Select this option to add plate numbers, card IDs, vehicle owner, as well as schedule a time of day in which the filter will apply. To add more vehicle data into the list, select the **Continue Adding** option. Click **Save** to apply.
Browse: Allows the user to download or import a list of vehicle data into the interface. Click Download to download a current list template (.csv) to your computer. To import a list, click **Browse** and select the .csv file from your computer. Click **Save** to apply the settings and import the list.
Export: Enable or disable export encryption. This will be disabled by default however exporting without encryption may have security risks.
Clear Expired Data: Deletes all list data saved in the list interface.
Clear: Clears all data from the list interface.

Barrier Control

This menu allows the user to configure and set information related to opening and closing an alarm barrier. Below is a description of the features in this menu.

Always Open: Enable this option to allow a barrier to remain open within the defined period.
Enable: Enable barrier control and configuration.

- **Barrier Opening Method:** Trigger an alarm through different modes and remotely control the barrier opening and closing.
  - **All Vehicle Open Barrier:** Capture any vehicle and output open barrier signal.
  - **Licensed Vehicles (Camera):** Capture any plated vehicle and output open barrier signal.
  - **Open Barrier by allowlist:** Capture a vehicle that is only listed in the allowlist or fuzzy matching list and then output the open barrier signal.
  - **Command (Platform):** The platform will send commands and output the open barrier signal. Please note, you can configure barrier opening control as Allowlist Open (Camera) and Order (Server) at the same time, however, the Allowlist Open (Camera) option will take priority.
  - **Manually Open:** Click to manually open a barrier trigger.
  - **Manually Close:** Click to manually close or stop a barrier trigger.

Barrier Opening Config: These options allow you to configure external alarm connections once the barrier is open.

- **Alarm-out Port:** Select which alarm output (NO1, NO2) will apply to this function.
- **Duration:** The number of seconds the alarm will sound after the barrier is opened.

Barrier Closing: These options allow you to configure external alarm connections once the barrier is closed.

- **Alarm-out Port:** Select which alarm output (NO1, NO2) will apply to this function.
- **Duration:** The number of seconds the alarm will sound after the barrier is closed.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Audio

This menu allows the user to set on board audio settings such as alarm tone and output settings. Below is a description of the features in this menu.

Input volume: Control the volume of an input audio device (currently no audio in options).
Audio Output Type: Switch between the onboard or external RCA
Output Volume: Control the volume of the internal or external RCA speaker if needed.
Voice Speed: Control the speed of the alarm tone once a rule or event has been triggered.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Alarm Tone Settings

This menu allows the user to set or modify an alarm tone setting, this allows the camera to trigger an audible alert once a rule or event has been triggered.

Enable: Enable or disable the alarm tone configuration.
Working Mode: Displays the current mode of the camera, the camera should be in standalone mode by default as most alarm tone settings will not be effective in managed mode.
Audio Content: Select specific built in audio tones that will be audible once a rule or event has been triggered.

Insert Forward: Choose whether the oldest selected audio tone comes before the newest selected audio tone.

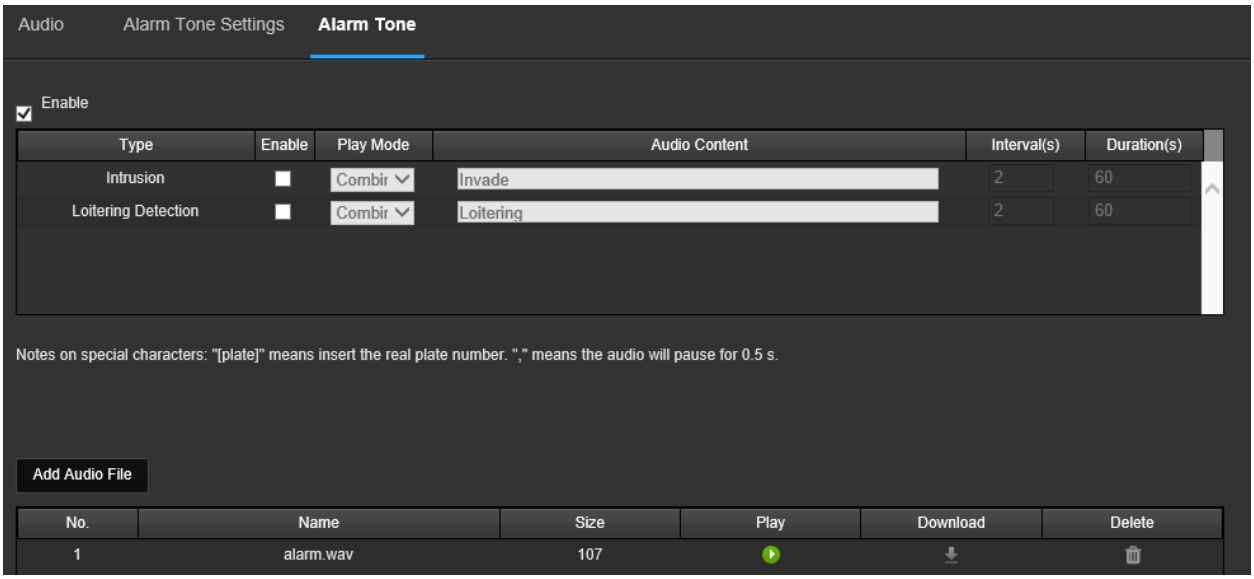
Insert Backward: Choose whether the oldest selected audio tone comes after the newest selected audio tone.

Modify: Edit a selected audio tone within the interface.
Delete: Remove a selected audio tone within the interface.
Clear: Clear and remove all the audio tones within the interface.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Alarm Tone

This menu allows the user to customize and set specific alarm tone audio to sound once an alarm or event, such as an IVS event, has been triggered.



Enable: Enable or disable a selected alarm tone setting. An alarm tone type must be set for a corresponding event first before an alarm tone can be enabled or triggered.
Intrusion: Click **Enable** to enable an alarm tone to be triggered once an intrusion rule has been triggered.

Play Mode: Select between a combined (file & tone) or file only playback mode.
Audio Content: Set text for audio tone file.
Interval(s): Set the number of times the alarm will sound after it has been triggered based on the duration.
Duration: The amount of time the alarm will sound after it has been triggered.

Loitering Detection: Click **Enable** to enable an alarm tone to be triggered once a loitering detection rule has been triggered.

Play Mode: Select between a combined (file & tone) or file only playback mode.
Audio Content: Set text for audio tone file.
Interval(s): Set the number of times the alarm will sound after it has been triggered based on the duration.
Duration: The amount of time the alarm will sound after it has been triggered.

Add Audio File: Add a custom audio file into the interface. The file size must be in .wav format, mono, 16 bit, sample rate 8KHZ/16KHZ/32KHZ/48KHZ/64KHZ, and does not exceed 1024k.

To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Device Test

This menu allows the user to test specific barrier controls such as opening and closing, capture, display content, voice broadcast etc. and provide a log of this information. Below is a description of the features in this menu.

Test Barrier Opening and Closing: Click Open to test the barrier click Close to stop it.
Test Capture: Enter a plate number (or use the default) and click Test.
Test Screen Display: Enter a message or use the default (Welcome) text to test the function.
Test Voice Broadcast: Click Test to test whether the device plays sound normally. (Not available on certain models).
Check for Abnormal Config: Click Check to test for any system abnormalities automatically.
Export Device Info: Export a general info, device config, or log text file to your computer. To encrypt a log backup file, select Encrypt Log Backup, enter the password for the device and click Log.

Note: If saving an encrypted log file, the browser may block this file as a pop-up. Click always allow pop up from this IP to save the .zip file to your computer.

Capture Info

This menu allows the user to display rules and track information captured by the device. To enable this feature, click the **Display rules and tracking info** and click save.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Operation Log

This menu allows the user to set a file path destination for operational log collection. This includes general information retained by the camera. Below is a description of the features in this menu.

Enable: Enables optional log collection.

Info Recognized by Algorithm: Capture any details related to algorithm specific details.

Device Status: Capture device status.

Subscribe Log: Enable the camera to retain subscribe logs.

Path: Choose which file path the log information will be saved.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Camera

This menu tab allows the user to change or modify specific camera configuration and image settings.

Configuration

The Configuration menu allows the user to configure general settings such as image brightness and saturation, night vision, and other settings related to image quality. Below is a description of the features in this menu.

Brightness: This slider is used to adjust image and live feed brightness. The value ranges from 0 to 100, however the default value is 50.

Contrast: This slider is used to adjust image and live feed contrast. The value ranges from 0 to 100. The value ranges from 0 to 100, however the default value is 50. Please note the feed may become hazy if the value is too low. If this value is too high, the dark section may lack brightness while the bright section may overexpose. The recommended value ranges from 40 to 60.

Saturation: This slider is used to adjust image and live feed saturation. The value ranges from 0 to 100. The value ranges from 0 to 100, however the default value is 50. Please note the feed may become hazy if the value is too low. If this value is too high, the dark section may lack brightness while the bright section may overexpose. The recommended value ranges from 40 to 60.

Gamma: This slider is used to adjust the gamma of the image and live feed. The larger the number, the brighter the video is. The default value is 50 and the recommended value ranges from 40 to 60.

IR Light: Enable or disable the IR LEDs for night vision.

Auto: Set the IR LEDs to automatically turn on once the light in the environment has reached its threshold

On: Turn on the IR LEDs manually.

Off: Turn off the IR LEDs manually.

Light Brightness: Use this slider to set the illumination intensity when there are no vehicles passing.

Passing Light Brightness: Use this slider to set the illumination intensity when a vehicle passes.

Note: The passing light brightness value must be equal to or larger than the light brightness value.

To reset to default settings, click the **Reset Defaults** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Shutter

This menu allows the user to adjust and configure camera features including exposure, gain, and scene modes. Below is a description of the features provided in this menu.

3D NR: Allows the user to configure noise reduction settings.

Tridim Denoise: Enable or disable 3D noise reduction.
Live Stream Spatial: Use this slider to adjust spatial denoising (The higher the value the less the noise).
Live Stream Temporal: Use this slider to adjust temporal denoising (The higher the value the less flicker noise.)

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Image

This menu allows the user to set and adjust the sharpness and wide dynamic range settings. Below is a description of the features provided in this menu.

Scene: This dropdown box allows the user to select which profile to modify. The 3 options are Morning/Dusk, Day, and Night.
Sharpness: This slider is used to adjust image and live feed sharpness. The value ranges from 0 to 100. The value ranges from 0 to 100, however the default value is 50. Please note the feed may become hazy if the value is too low. If this value is too high, the dark section may lack brightness while the bright section may overexpose. The recommended value ranges from 40 to 60.
WDR: Enable or disable wide dynamic range. Use the slider to just WDR settings if needed.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Exposure

This menu allows the user to adjust exposure settings. Below is an explanation of the features listed in this menu.

Iris: Allows the camera to automatically just the iris according to the distance of an object captured in the live feed. This is enabled automatically by default however can be switched to manual by selecting Manual.
Mode: Use this dropdown menu to select exposure modes. The camera can be set to manual, which allows the user to manually adjust these settings or auto, which allows the camera to automatically compensate for these functions.
Shutter: Allows the user, while in manual mode, to select a shutter range. A custom range can be entered by selecting Customized Range from the dropdown menu.
Shutter Scope: Set the time range of the shutter.
Gain: Set the value of the gain as it pertains to scope range.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

White Balance

This menu allows the user to adjust white balance settings of the device. Below is a description of the features provided in this menu.

Mode: Use this menu to select a white balance setting.
Auto: Allows the camera to automatically adjust white balance settings while in use.
Outdoor: Allows the camera to automatically adjust white balance settings while in outdoor (sunny or dark environments.

Manual: Displays options that will allow the user to manually adjust specific red or blue values related to white balance.
Custom Area: Use this slider to adjust the weight or intensity of the white balance in the area.
Natural: Allows the camera to automatically adjust white balance settings in areas with high natural light.
Street Lamp: Allows the camera to compensate white balance settings in areas with heavy streetlamp activity.

To reset to default settings, click the **Reset Defaults** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Metering

This menu allows the user to adjust to the backlight or front light image intensity of the image. The measuring mode can be set globally or partially within the device. Below is a description of the features provided in this menu.

Plate Brightness: Allows the user to enable or disable backlight or the front light intensity in scene. This helps to improve the backlight and brightness of the image.
Measure Mode: Select between a global or partial measuring model.

Global Measure: Measure the brightness of the whole image area and intelligently adjust the overall image brightness.
Partial Measure: Measure the brightness of the sensitivity area and intelligently adjust the overall image brightness. If the measured area becomes bright, then the whole area becomes dark, and vice versa. If using partial measure, use your mouse on the screen to drag and select the measured area. The system will display a yellow box. Drag the box to the proper location and click Confirm to set the area.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Live Stream

This menu allows the user to view and adjust encode, snapshot, quality, and path settings. Below is a description of the features provided in this menu.

Stream Type: Displays which type of stream is being produced by the camera. The default is Normal.
Encode Mode: This dropdown box allows the user to select a compression protocol (H.265, H.264M, H.264H, MJPEG)
Resolution: This dropdown box allows the user to set the resolution. The system supports various resolutions, and they can be selected from this dropdown list.
Frame Rate (FPS): This dropdown box allows the user to select a frame rate. Frame rate settings are measured in frames per second (FPS) and can range from 1f/s to 25f/s in PAL mode and 1f/s to 30f/s in NTSC mode.
Bit Rate Type: This dropdown box allows the user to select a bit rate type. The system supports two-bit rate types: CBR and VBR. In VBR mode, video quality can be set.
Quality: Select the overall quality of the stream. The default will be Good however can range from worst to best.
Reference Bit Rate: This is the recommended bit rate value according to the resolution and frame rate selected.
Max Bit Rate: This dropdown box allows the user to select a bit rate.
Frame Interval: This field allows the user to set the P frame amount between two I frames. The value ranges from 1 to 150 seconds. Default value is 50. Recommended value is frame rate *2.
Watermark Settings: This function allows the user to verify if the video has been tampered with.

Watermark Character: This field allows the user to set the watermark's text. The default string is Digital CCTV. The maximum length is 85 characters. This string can only include numbers, characters, and underscores.

Sub Stream is a lower quality stream that allows the feed to take up less resources and bandwidth when streaming. The Mainstream and the Sub Stream have the same fields. Sub Stream can be enabled by checking the box next to Enable.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Snapshot

The snapshot tab allows the user to adjust all snapshot settings sent by the camera. This includes the type, size, quality and intervals. Below is an explanation of the features provided in this menu.

Snapshot Type: This dropdown box allows the user to select a snapshot mode. It will be set to General by default.
Resolution: This dropdown box allows the user to set a resolution of the snapshot. Default is 4MP.
Size: By default, the screenshot size is the same size as the video feed's resolution.
Quality: Allows the user to select image quality. Quality is adjusted on a scale from worst to best.
Size (KB): Allows the user to adjust how large the image will be in Kb. The default is 300Kb however can range up to 1024Kb. A custom value can be entered as well with a range up to 1024Kb.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

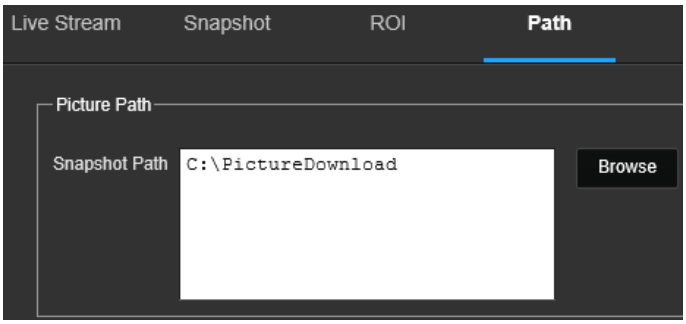
ROI

This menu allows the user to adjust the overall quality in different areas on the live view. The quality can range from worst (1) to best (6). To adjust the quality, use your mouse on the feed to draw an area of interest, then use the dropdown menu provided and select the image quality needed. Click **Save** to apply the settings to the area.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Path

The path menu allows the user to designate a file path on the computer for downloading events. Please note, if you are using a browser that does not support a plugin, such as Google Chrome, Firefox, Safari, etc. the default file path will be set as the browser's default download folder. However, this can be updated if accessing the camera in IE mode on Edge.



Network

This menu section allows the user to change network settings for the camera.

TCP/IP

TCP/IP stands for Transmission Control Protocol/Internet Protocol and it is the language/protocol that allows communication between an internet-connected device, whether on a local network and the Internet. This screen allows for TCP/IP settings to be modified for the camera to establish a connection to the network.

Below is an explanation of the fields on the TCP/IP settings tab:

Host Name: This text field allows the user to change the host device name for the camera. This field supports a maximum of 15 characters.
NIC: This dropdown box allows the user to select which internet access device to use. If the device is connected to a wired connection and a wireless one at the same time, then this box will have options to pick either of the connections. The Set as Default button allows the user to select one of the connection methods as the default one.
Mode: Static vs DHCP: This radio button allows the user to choose between a static IP address, and a dynamic IP address. DHCP stands for Dynamic Host Configuration Protocol, and this enables the camera to automatically obtain an IP address from another network device such as a server or more commonly, a router. When the DHCP function is enabled, the user cannot modify the IP address, Subnet Mask, or Default Gateway, as these values are obtained from the DHCP function. To view the current IP address, DHCP needs to be disabled. Note: When PPPoE is enabled, modification of the IP Address, Subnet Mask, and Gateway becomes prohibited.
MAC Address: This field shows the camera's MAC address, which is unique to this device. This number is read only and is used to access a local area network (LAN).
IP Version: This dropdown allows the user to select the IP version. The two options are IPV4 and IPV6.
IP Address: This field allows the user to enter a custom IP address.
Subnet Mask: This field allows the user to enter a custom subnet mask.
Default Gateway: This field allows the user to enter a custom default gateway.
Preferred DNS Server: This field allows the user to enter the preferred DNS server IP address.
Alternate DNS Server: This field allows the user to enter the alternate DNS server IP address.
Enable ARP/Ping to set IP Address Service: This checkbox allows the user to enable the ARP/Ping service to change the IP address service. For more information on this feature, click the help button while on the TCP/IP settings tab.

To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

P2P

This feature needs to be enabled for use with the Amcrest View 2 app, or other software that requires P2P. Please note, the LPR camera can be added to the Amcrest View Pro 2 app if needed, however, is only applicable to live view as the camera does not support video playback, motion detection, or push notifications. It is for **live view purposes only**. Below is a description of the features provided in this menu.

Enable: This checkbox allows the user to enable the P2P feature for the camera. This feature must be enabled for the camera to connect to the Amcrest View 2 app. It is enabled by default.
Status: This field displays the status of the P2P connection. Once the camera is connected to a device, this field should display the word Online.

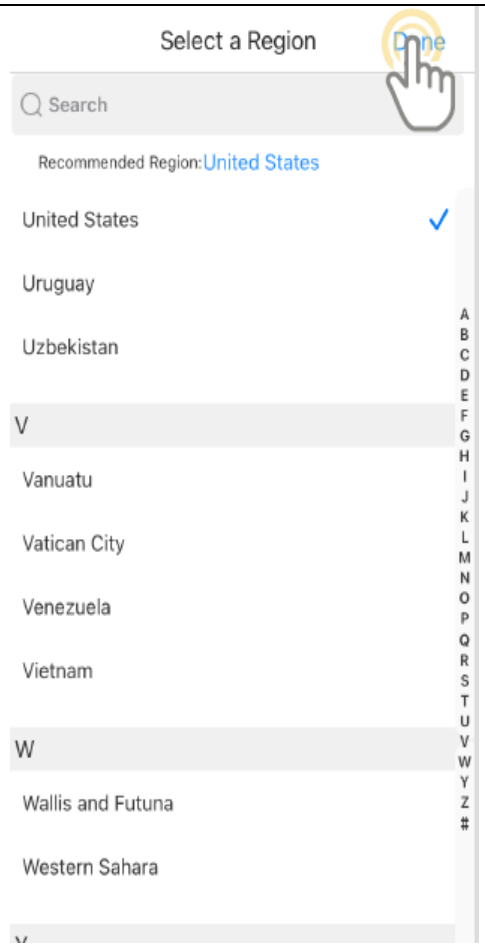
S/N: This field displays the Token ID for the camera. The Token ID can be used to manually enter the camera's information on a mobile or tablet device in case the QR code scanning feature cannot be used.
QR Code: This image is a Quick Response (QR) code. By scanning this image using the Amcrest View 2 app, this camera can establish a connection with the app.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Amcrest View Pro 2 Setup

The LPR camera can be added to the Amcrest View Pro 2 app if needed, however, is only applicable to live view as the camera does not support video playback, motion detection, or push notifications. It is for **live view purposes only**.

The Amcrest View Pro 2 app can be downloaded in both the App Store and Play Store.

<table>
<tr>
<td>
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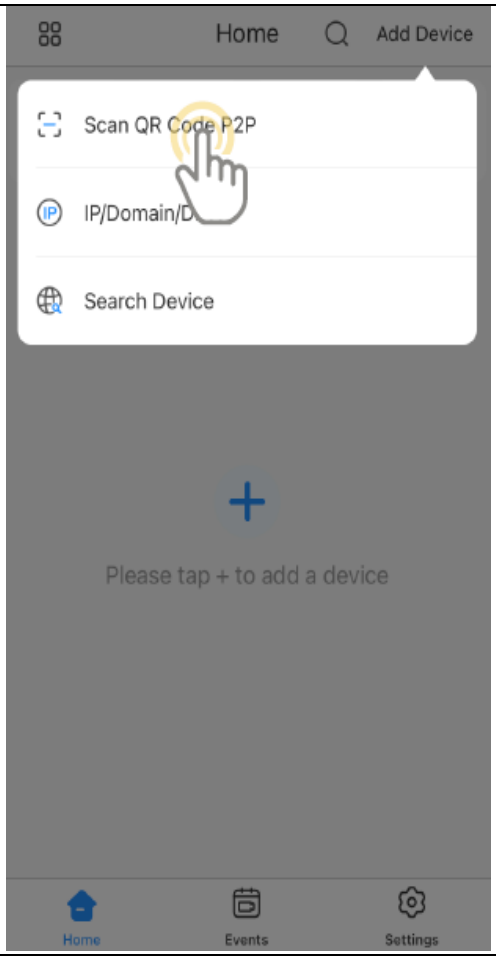
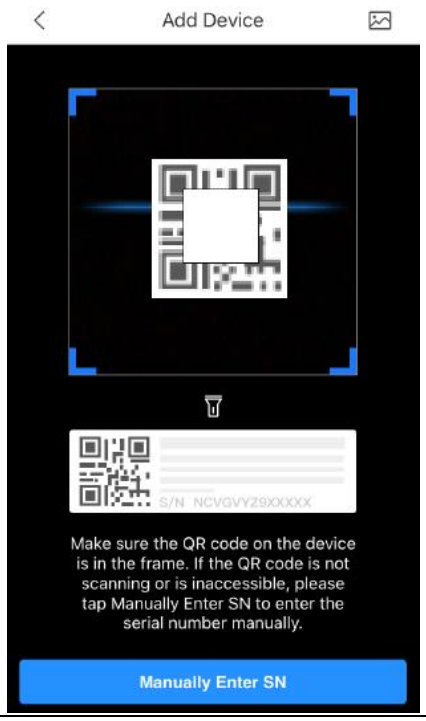
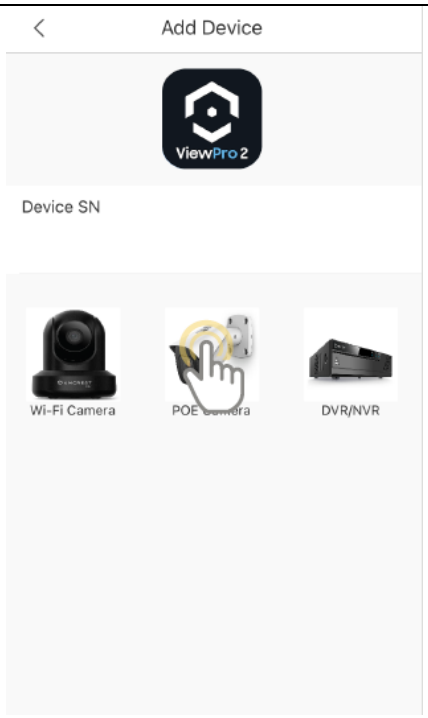
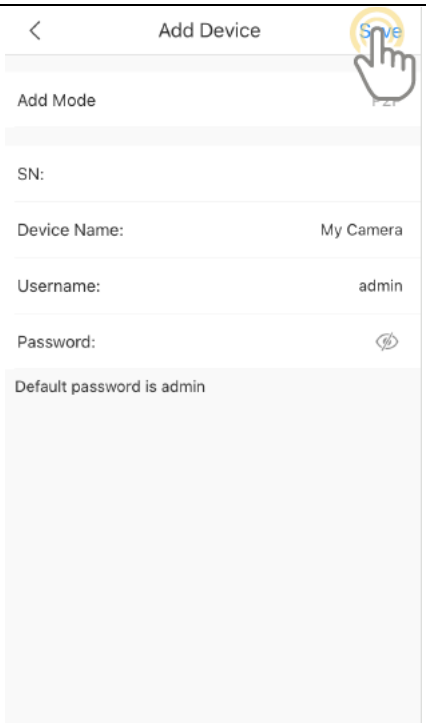
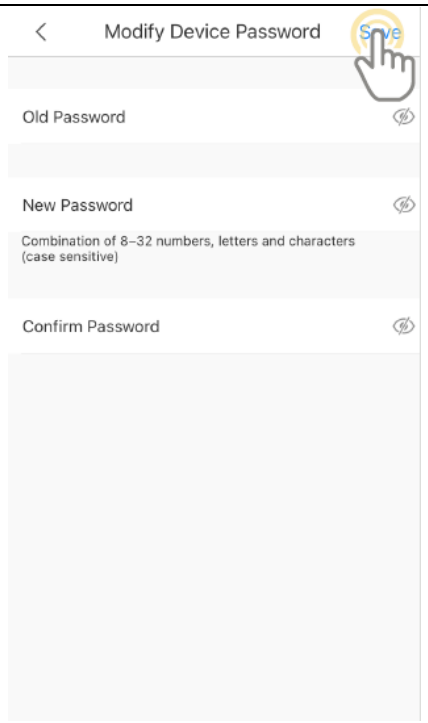
<td>
</td>
</tr>
<tr>
<td>Select a Region. Click Done.</td>
<td>Tap Add Device and select Scan QR Code P2P.</td>
</tr>
</table>

	
Scan the QR code on the camera or manually enter the device's serial number into the **Enter camera S/N** (serial number) field.	Tap **POE Camera**.
	
Enter the name for the device in the Device Name field. Enter the default password for the camera in the Password field. The default password will be **admin**. Tap **Save**.	Enter the default password into the **Old Password** field, enter a new password in the **New Password** field and confirm. Tap **Save** to view the device.

Connection

The Connection tab is where users can configure port connections. Below is an explanation of the fields on the Connection settings tab:

Max Connections: This field allows the user to specify the maximum number of users that can be connected to the camera at the same time. The maximum number of users the camera can support at one time is 20.
TCP Port: This field designates the Transmission Control Protocol (TCP) port number. The default value is 37777.
UDP Port: This field designates the User Datagram Protocol (UDP) port number. The default value is 37778.
HTTP Port: This field designates the Hypertext Transfer Protocol (HTTP) port number. The default value is 80.
RTSP Port: This field designates the Real Time Streaming Protocol (RTSP) port number. The default value is 554.
HTTPS Port: This field designates the Hypertext Transfer Protocol Secure (HTTPS) port number. The default value is 443.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

ONVIF

The ONVIF tab is where users can configure authentication via the ONVIF standard. To enable ONVIF, click the radio button next to Enable, and then click the **Save** button.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

DDNS

DDNS stands for Dynamic Domain Name Server. This technology is used to automatically update name servers in real time to help the camera maintain a persistent address despite changes in location or configuration. What this means is that even when the camera is restarted, moved, or reconfigured, it can keep the same IP address, thus allowing remote users uninterrupted access to the camera, rather than having to request a new IP address to use for remote access anytime a change is made.

To use this feature, users will need to setup an account with a DDNS service. The camera supports a variety of DDNS services such as AMCRESTDDNS, NO-IP DDNS, and Dyndns DDNS. Based on which service is selected, different options may show on this screen. For purposes of this guide, AmcrestDDNS will be used. AmcrestDDNS is a free DDNS service provided by Amcrest, and it must be renewed every year. A renewal reminder email will be sent to the email entered in the username field below. To use AmcrestDDNS, enter the domain name set for the camera in the Domain Name field and enable the Type option. Click Save. The URL format for AmcrestDDNS is “domainname.amcrestddns.com:HTTPportnumber” the HTTP port number must be port forwarded for this to function.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Multicast

This menu allows the user to configure multicast settings. Multicast is a transmission mode of data packets. When there is multiple-hosts to receive the same data packets, it is best to use this option to reduce bandwidth as well as

CPU load. The source host can send out one piece of data to transit. Below is a description of the features provided in this menu.

Enable: Enable or disable multicast for the mainstream and substream.
Multicast address: Main/sub stream multicast default address is 224.1.2.4 and its range is 224.0.0.0～239.255.255.255.
Connection: Multicast port. Main stream is 40000, sub stream is 40002 and the range is 1025～65534.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

SMTP (Email)

This menu allows for the configuring of email settings to permit the camera to send emails when an alarm is triggered. Below is a description of the features provided in this menu. Please note, email alerts in this device **only pertain to device abnormalities or blocklist items.**

SMTP Server: SMTP stands for Simple Mail Transfer Protocol. This field allows the user to enter the SMTP server used by the email service.
Authentication: This dropdown box allows the user to select an encryption type. There are two types of email encryption protocols that are available:

- **SSL:** Secure Socket Layer
- **TLS:** Transport Layer Security

Connection: This field allows the user to enter the port that corresponds to the selected SMTP server.
Login Anonymously: This checkbox allows the user to anonymously login to the server.
Username: This field allows the user to enter the SMTP username.
Password: This field allows the user to enter the password associated with the SMTP username.
Sender: This field allows the user to enter the sender email address. This email address will be the one that sends out all emails pertaining to the alerts and alarm emails sent by the camera.
Title: This field allows the user to define the subject line of the email that is sent to the receivers.
Attachment: This checkbox allows a snapshot of the event to be attached to the email notification.
Recipients: This field allows the user to enter the receiver email address. These email addresses are the ones that will receive any emails pertaining to alert and alarm emails sent by the camera. Up to 3 email addresses can be entered in this field.
Keep Alive: This checkbox allows the user to enable a function to periodically check in with the SMTP server to ensure it can connect correctly.
Update Period: This field allows the user to define, in minutes, how long the system should wait between sending emails. This prevents multiple emails from being sent out.
Email Test: This button causes the system to automatically send out an email to test the connection is OK or not. Prior to the email test, please save the email setup information.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

HTTPS

Hypertext Transfer Protocol Secure (https) is a combination of the Hypertext Transfer Protocol (HTTP) with the Secure Socket Layer (SSL)/Transport Layer Security (TLS) protocol. This menu allows the user to enable and create HTTPS certificates.

To enable HTTPS, click Create. Enter the requested information related to the certificate, region, IP or domain name of the camera, state, location, etc., and click Create. Click Install and allow the cert to be created. Click the download button to download the root cert to your computer. Right click on the root cert and install the certificate to your machine (be sure to place the cert in the Trusted Root Certification Authorities folder).

Once the cert has been installed and properly imported, navigate back to the web interface and click Enable HTTPS, then click Save. The camera will restart, allow the camera to reset. Once the page refreshes, the IP address for the camera will now be secured. A lock icon ( ) will appear next to the IP address.

To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Event

This menu allows the user to select different external alarm attributes as well as configure abnormalities related to the device. For more information, please refer to the information provided below.

Alarm

This menu allows the user to configure any external alarms or relays associated or connected to the camera. Below is a description of the features provided in this menu. Please note, this is only for external alarms.

Alarm

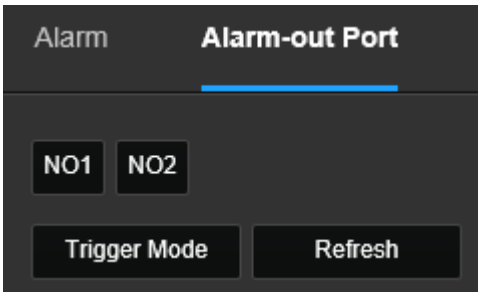
This tab allows the user to configure relay in and relay out settings for a connected external alarm.

Enable: Enable or disable the relay in function. Please note, IN1 will be enabled by default.
Period: Set a schedule for relay activation.
Anti-Dither: The amount of time, in seconds, in between specific alarm activations. Can range between 0 and 100.
Sensor Type: Select between a normally open (NO) or a normally closed (NC) sensor activation type.
Alarm-out Port: Enable or disable a relay out. Select between 2 different relays out outputs (NO1 or NO2).
Duration: The number of seconds in which the alarm will trigger. Can range from 10 to 300 seconds.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Alarm-out Port

This menu allows the user to manually test the relay out alarm. To use this option, select a relay out option (NO1 or NO2) and click **Trigger Mode** to test and manually trigger the alarm. Use the **Refresh** option to refresh the interface.



Abnormality

This menu allows the user to adjust abnormality event settings that allow the user to be notified if any errors or abnormalities have occurred while in operation. This includes if a microSD card, network errors, illegal access, or other abnormalities were to occur. For more information, please refer to the information provided below.

SD Card

This tab allows the user to set the camera's response to a microSD card related abnormality. Below is an explanation of the fields on the **microSD Card** settings tab:

Event Type: This dropdown box allows the user to select which microSD card abnormality to set event triggers for. The 3 options are No SD card, SD Card Error, and Memory Insufficient.
Enable: This checkbox enables the microSD Card abnormality trigger for the camera.
Alarm-out Port: If an external alarm is connected, an alarm can be sent if the abnormality is triggered. Please note, outputs 1 and 2 are generally used to control the barrier.
Duration: The number of seconds in which the alarm will be triggered.
Post-alarm: The duration of the time in between abnormality alarms.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Network

This tab allows the user to set the camera's response to a Network related abnormality. Below is an explanation of the fields on the **Network** settings tab:

Event Type: This dropdown box allows the user to select which Network abnormality to set event triggers for. The 2 options are Off-line Event and IP Conflict.
Enable: This checkbox enables the Network abnormality trigger for the camera.
Alarm-out Port: If an external alarm is connected, an alarm can be sent if the abnormality is triggered. Please note, outputs 1 and 2 are generally used to control the barrier.
Post-alarm: The duration of the time in between abnormality alarms.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Illegal Access

This tab allows the user to set the camera's response to an Illegal Access related abnormality. Below is an explanation of the fields on the **Illegal Access** settings tab:

Enable: This checkbox enables the Illegal Access abnormality trigger for the camera.
Login Attempt: This field allows the user to specify how many failed login attempts must be attempted to trigger an Illegal Access abnormality event.
Alarm-out Port: If an external alarm is connected, an alarm can be sent if the abnormality is triggered. Please note, outputs 1 and 2 are generally used to control the barrier.
Post-alarm: The duration of the time in between abnormality alarms.

Send Email: Allow an email alert to be sent if the alarm or abnormality is triggered. Please note, email alerts must be set up in the SMTP (Email) menu for email alerts to function. For more information on setting up email alerts, please visit amcrest.com/support

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Security Exception

This tab allows the user to set the camera to trigger an abnormality alert if a brute force attack of the Web path is detected, a brute force attack of session ID is attempted, a session connection over-limit, or an abnormal program is activated in the trusted environment, etc.

Enable: Enable or disable this function.
Alarm-out Port: If an external alarm is connected, an alarm can be sent if the abnormality is triggered. Please note, outputs 1 and 2 are generally used to control the barrier.
Post-alarm: The duration of the time in between abnormality alarms.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Blocklist

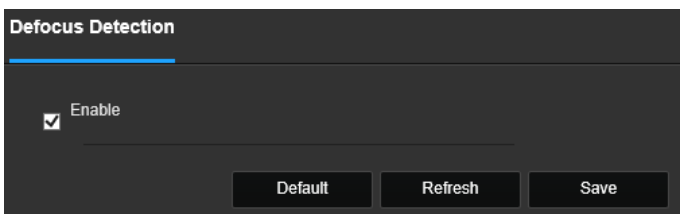
This tab allows the user to set the camera to trigger an abnormality alert if the camera detects a vehicle that is provided in the blocklist of the camera. To add a vehicle's plate to a blocklist, go to ITC and select Blocklist and Allowlist, select the Blocklist tab, enable and enter the plate number into the interface.

Enable: Enable or disable this function.
Alarm-out Port: If an external alarm is connected, an alarm can be sent if the abnormality is triggered. Please note, outputs 1 and 2 are generally used to control the barrier.
Post-alarm: The duration of the time in between abnormality alarms.
Send Email: Allow an email alert to be sent if the alarm or abnormality is triggered. Please note, email alerts must be set up in the SMTP (Email) menu for email alerts to function. To have the full image sent select **Original Image**. To have a snapshot of the plate image only, select **Plate Cutout**.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Defocus Detection

The defocus detection option helps ensure clear footage by detecting when the image becomes blurry. This can happen due to various reasons, such as the camera going out of focus, dirt or obstructions on the lens, or even tampering attempts. Click the **Enable** option to turn on this feature, then click **Save**.



To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

IVS

The IVS menu allows the user to set AI settings to add more advanced perimeter protection to the detection area. This includes intrusion and loitering detection rules. To add an IVS rule to the interface, click the "+" icon and select a rule from the Type dropdown menu.

Intrusion

Intrusion allows the camera to trigger an event if an object, such as a human, vehicle, non-motor vehicle, or unlicensed vehicle crosses or enters a set intrusion area. To set an intrusion rule, please refer to the information provided below.

Parameters	Description
Draw Rule	Select this option and use your mouse to draw a detection area on the screen.
Clear	Clear the detection area on the screen.
Target Filter	Target Filter options allow you to refine which objects trigger specific IVS events. It works by setting the minimum and maximum size of objects the camera should consider for triggering these events.
Draw Target	Select this option and use your mouse to draw a target area on the screen.
Type	Select an IVS rule from the dropdown menu.
Delete	Click the trash can icon to remove the rule from the interface.
Schedule	Click Setup to set a schedule for the rule. Use your mouse to adjust the time if needed and select which days will apply, click OK to set the schedule.
Target	Set which objects will apply **Human:** Detect humans only if the rule is triggered. **Motor Vehicle:** Detect vehicles only if the rule is triggered. **Non-Motor Vehicle:** Detect objects such as bikes, motorcycles, etc. **Unlicensed Vehicle:** Detect only unlicensed vehicles.
Sensitivity	Set the sensitivity of the detection area. The higher the sensitivity the more objects will be detected within the area.
Warning Light	Enable or disable the red/blue LEDs to activate once the rule has been triggered. **Duration:** The amount of time the LEDs will flash after it is triggered.
Send Email	Allow an email notification to be sent if email SMTP option is set up on the camera.
Snapshot	Send a snapshot of the event to your email if "send email" is enabled.
Siren	Activate an alarm tone once the rule has been triggered.

Setting an Intrusion Rule

Step 1: Click the "**+**" icon and in the **Type** drop down menu, select **Intrusion**.
Step 2: Click **Draw Rule** and use your mouse to draw an intrusion area on the interface.
Step 3: Select any object filters, such as human, vehicle, etc. Use the warning light or siren option to enable an active deterrent. Enable **Send Email** if email notifications are set in the interface. Click **Save**.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Loitering Detection

The loitering detection rule is used to detect if a person or group are loitering in a specific area set by the user. To set a loitering detection rule, please refer to the information provided below.

Parameters	Description
Draw Rule	Select this option and use your mouse to draw a detection area on the screen.
Clear	Clear the detection area on the screen.
Target Filter	Target Filter options allow you to refine which objects trigger specific IVS events. It works by setting the minimum and maximum size of objects the camera should consider for triggering these events.
Draw Target	Select this option and use your mouse to draw a target area on the screen.
Type	Select an IVS rule from the dropdown menu.
Delete	Click the trash can icon to remove the rule from the interface.
Schedule	Click Setup to set a schedule for the rule. Use your mouse to adjust the time if needed and select which days will apply, click OK to set the schedule.
Target	Set which objects will apply **Human:** Detect humans only if the rule is triggered. **Motor Vehicle:** Detect vehicles only if the rule is triggered. **Non-Motor Vehicle:** Detect objects such as bikes, motorcycles, etc. **Unlicensed Vehicle:** Detect only unlicensed vehicles.
Interval	The amount of time the object or objects will remain in the area before it is triggered.
Duration	The amount of time the rule will be triggered and activated.
Warning Light	Enable or disable the red/blue LEDs to activate once the rule has been triggered. **Duration:** The amount of time the LEDs will flash after it is triggered.
Send Email	Allow an email notification to be sent if email SMTP option is set up on the camera.
Snapshot	Send a snapshot of the event to your email if "send email" is enabled.
Siren	Activate an alarm tone once the rule has been triggered.

Setting a Loitering Detection

Step 1: Click the "**+**" icon and in the **Type** drop down menu, select **Loitering Detection**.
Step 2: Click **Draw Rule** and use your mouse to draw a detection area on the interface.
Step 3: Select any object filters, such as human, vehicle, etc. and set the interval and duration time if needed. Use the warning light or siren option to enable an active deterrent. Enable **Send Email**, if email notifications are set in the interface. Click **Save**.

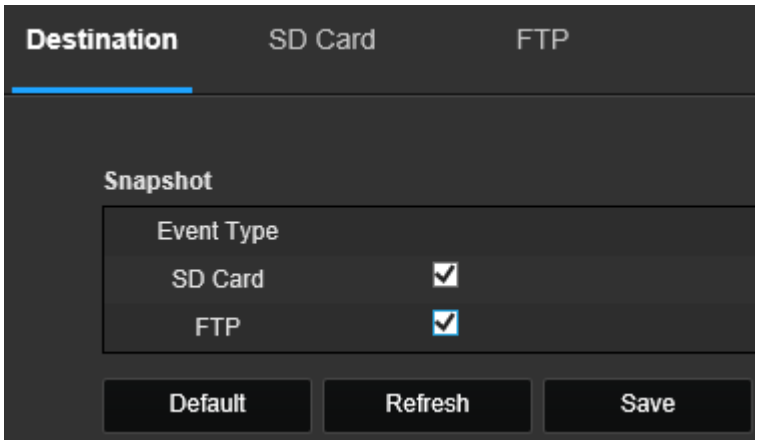
To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Storage

This menu section allows the user to change storage settings for the camera. This includes MicroSD cards and FTP settings.

Destination

This menu allows the user to choose a destination or protocol in which snapshots of the event will be stored. By default, they will be set to store to a MicroSD card (if one is inserted) however can also go to an SFTP/FTP. Each protocol can be enabled at the same time if needed.



SD Card

This tab is where the user can change microSD card settings. Below is an explanation of the fields on the microSD card settings tab:

Disk Full: Select whether the card will be overwritten after it is full or to stop after it is full.
Device Name: This column designates the name of the microSD card that is currently in the camera.
State: This column designates the status of the microSD card.
Configuration: This column designates the read/write attributes for the microSD card. By default, this is Read & Write.
Free Capacity/Total Capacity: This column shows the available memory on the microSD card.
Hot Swap: This button is used to eject the microSD card from the interface.
Format: This button formats the microSD card. Please note, the camera may reset after it has been formatted.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

FTP

This tab allows the user to set events to be stored onto an SFTP or FTP server. By default, this option will be set using an SFTP protocol as it is the most secure method, however, an FTP server address can be set as well. Please note, if saving events to an FTP, please make sure the FTP option is enabled in the Path tab before proceeding. Below is an explanation of the fields provided in this menu.

Offline Transfer: Allows the events to be sent to a microSD card if the network disconnects or fails.
Enable: Enable an SFTP or FTP protocol.
Protocol: Select either a SFTP or FTP protocol is being used.
Server Address: Enter the IP address of the SFTP or FTP server.
Connection: Enter the port number of the SFTP or FTP server. SFTP port will be 22, FTP port will be 21.
Username: Enter the username of the SFTP or FTP server.
Password: Enter the password associated with the SFTP or FTP server.

Remote Path: Enter the directory information in which the events will be stored.
Upload Picture: Allows the user to choose which file types are uploaded the to the FTP (All, ANPR or Manual Snapshots).
Test: Test the connection between the camera and the SFTP or FTP server.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

System

This menu section allows the user to change general settings for the camera.

General

This tab is where the user can configure some basic camera settings. Below is an explanation of the fields on the **General** settings tab:

Device Name: This field allows the user to change the device's name.
Language: This dropdown box allows the user to change the language used in the camera.
Live Stream Standard: This dropdown box allows the user to select either the NTSC or PAL video standard.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Date & Time

This tab is where the user can configure the date and time settings for the camera. Below is an explanation of the fields on the Date & Time settings tab:

Date Format: This dropdown box allows the user to change the date format used in the camera.
Time Format: This dropdown box allows the user to change the time format used in the camera.
Time Zone: This dropdown box allows the user to change the time zone used in the camera.
System Time: This field allows the user to enter in the date and time manually. Clicking the PC Sync button allows the camera to sync with a Network Time Protocol (NTP) server.
DST: This checkbox allows the user to enable daylight savings time for the camera.
- **DST Type**: This radio button allows the user to select whether DST is based on the week, or a specific day.
- **Begin Time**: This dropdown box and field allow the user to enter in the start time for DST.
- **End Time**: This dropdown box and field allow the user to enter in the end time for DST.

NTP: This checkbox allows the user to enable the camera's synchronization with an NTP server.
- **NTP Server**: This field allows the user to enter in an NTP server.
- **Connection:** This field allows the user to enter in the port number for the NTP server.
- **Interval**: This field allows the user to enter in the update period time. This number designates how frequently the camera pings the NTP server to ensure it has the correct time. The range is from 0-30 minutes.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Account

This menu allows the user to change the user, group, and ONVIF users on the camera. By default, the camera only has an admin account which has all rights/authorities. Additional accounts can be created on this screen. Below is an explanation of the fields on the Account screen:

Anonymous Login: This checkbox allows the user to enable the anonymous login feature. This allows all user account names to remain hidden on this screen.
Username: This tab shows the usernames available on the camera.
Group Name: This tab shows the user groups available on the camera.
No.: This column shows the user's number on the user list.
Username: This column shows the usernames of the different accounts on the camera.
Group Name: This column shows the group of the different accounts on the camera.
Description: This column shows a description of the account.
Modify: This column allows the user to modify the user account.
Delete: This column allows the user to delete a user account. Note: The admin account cannot be deleted.
Permission: This box shows which user rights/authorities are assigned to an account.
Add User: This button allows the user to add a new user to the camera.
Group: Use the group option to group specified users if needed.
ONVIF User: Use this tab to add an ONVIF user access to the camera.

Default Settings

This screen allows the user to reset the camera and all its settings to the factory settings. Below is an explanation of the items listed in this field:

Default Settings: Only the IP address, user management, and other settings can be recovered after reset.
Factory Defaults: Completely resets the camera to factory default settings. No settings can be recovered after the camera has been returned to its factory default settings.

Import/Export

This screen allows the user to import or export settings from the camera. To export the settings, click the Export button. The settings file will be downloaded to your device. Click the Import button to import the settings back into the camera.

Maintenance

This tab allows the user to set maintenance settings for the camera.

Auto Restart: This checkbox allows the user to enable the auto reboot function. The dropdown box and field to the right of this checkbox allow the user to specify what date and time of the week the camera will auto reboot.
Delete Expired Files: This checkbox allows the user to enable the auto deletion of old files on the camera.
Restart: This button allows the user to manually reboot the camera.

To refresh the page, click the **Refresh** button. To save the settings, click the **Save** button.

Emergency Maintenance

Enabling emergency maintenance might trigger the camera to automatically reboot itself under specific circumstances. These circumstances are not clearly documented but could be related to:

System crashes or errors: If the camera software encounters critical issues, the emergency maintenance might initiate a reboot to attempt recovery.
Hardware malfunctions: While less likely, it's possible the option could trigger a reboot in response to certain hardware issues.

To reset to default settings, click the **Default** button. To refresh the screen, click on **Refresh**. To save the settings, click the **Save** button.

Update

This menu allows the user to upgrade the camera's firmware. To upgrade the firmware for your camera, follow the steps provided below:

Go to amcrest.com/firmware
Search for the model number of your camera and download the latest firmware file.
Return to the web user interface for your camera and press the **Browse** button to locate and import the firmware file you just downloaded.
Once the firmware file has been imported, click **Upgrade**.
The device will reset, return to the web user interface. The upgrade is now complete.

Note: When upgrading the camera's firmware, do not disconnect the internet or power from the camera.

Information

This menu section allows the user to view information about the camera for reference purposes.

Version

This screen allows the user to see various information about the camera's software versions, as well as other information. On this screen, software version, web interface version, and ONVIF version are displayed. Also, the S/N (Token ID) is displayed here.

Log

This screen is where the camera's activity log is kept. To view logs for a specific time period, modify the start time and end time fields, choose the type of event (system, setting, data, event, record, manage users, clear log), and click search.

To back up the log, click the Backup button. To clear the log, click the **Clear** button.

Online Users

This screen allows the user to see which users are online. Click **Refresh** to refresh this table.

Running Status

This menu allows the user to view CPU usage, number of CPUs the camera is connected to, total working time, etc of the camera. Click the Refresh button to refresh the status.

Alarm

This screen is where the alarm log is kept. The table on the right shows the alarm log and all the alarm instances that have occurred. The checkboxes allow the user to narrow down which alarms they want to see in the alarm log.

Clicking the checkbox next to Prompt will cause the system to pop up a dialog box anytime an alarm is triggered. Clicking the checkbox next to Play Custom Alarm will use a custom alarm sound for the alarm prompt. Click the Browse button to search for a custom alarm sound to use.

Logout

Clicking the logout button will log you out of the interface and return you to the main login page.

Remote Web Access Setup

There are two main methods for setting up remote access: UPnP/DDNS, and Port Forwarding.

DDNS Remote Web Access Setup

Dynamic Domain Name Server (DDNS) functionality is the easiest way to setup stable remote access.
Below is a step-by-step walkthrough that details how to setup Amcrest cameras for Remote Web Access using UPnP and DDNS:

1. Login to your camera's web interface, open the main menu then go to Setup -> Network.
2. Using the left-hand menu, go to the Connection menu, and write down the HTTP port. It is recommended to ensure the port number is at least 5 digits long to prevent any port conflicts. If need be, change the port to a 5digit number that is less than 65535, note the number down, and click save before proceeding to the next step.
3. The system will prompt you to reset the camera. Click OK and wait for the camera to restart.
4. Restarting the camera may cause the device to use another IP address. Use the included IP Config tool to find the IP address as detailed previously in this document.
5. Login to your camera, open the main menu then go to Setup -> Network.
6. Click the Connections menu item on the left-hand menu and ensure that the HTTP port has changed.
7. Click the DDNS menu item on the left-hand menu, pick Amcrest DDNS from the drop-down box, click the checkbox next to Server Type, and then click the Save button on the bottom right.
8. To set a custom DDNS name, fill out the Domain Name field and click Save.
9. Write down the entire Domain Name field, including the white text that says.AmcrestDDNS.com
10. Click the UPnP menu item on the left-hand menu and click the enable checkbox at the top.
11. While in the UPnP menu, double click the HTTP port, and change both the internal and external HTTP ports to match the number that was used in step 2.
12. Uncheck the last 4 checkboxes in the PAT table on the UPnP menu.
13. Click apply, then exit this menu to go back to the main menu, then re-enter the UPnP menu, and ensure the UPnP status says, "Mapping Successful".
14. Open a web browser and enter in the DDNS domain name address from step 9, enter in a colon, then type the port number from step 4 on to the end.
    a. For example, if the DDNS domain name is http://abc123456789.AmcrestDDNS.com and your HTTP Port is 33333, the URL would be http://abc123456789.AmcrestDDNS.com:33333

15. The browser may prompt you to install a plugin. Click install to download the plugin, and then click on the plugin installation file to install the plugin.
16. If the browser prompts you to allow the plugin to work on the computer, hit Allow to ensure the plugin can run successfully.
17. Enter in login details into the username and password fields and click login.
    If the process above is not working, please contact Amcrest Support via one of the following options:

Port Forwarding Remote Web Access Setup

Port Forwarding is an alternative method to setting up remote access for Amcrest cameras. This method should only be used if the UPnP/DDNS Remote Access method did not work.
Below is a step-by-step walkthrough that details how to setup the camera for Remote Web Access using Port Forwarding:

1. Login to your camera, open the main menu then go to Setup -> Network.
2. Open the TCP/IP settings screen.
3. By default, the camera has the mode set to DHCP. Ensure that DHCP is selected. The IP Address, Subnet Mask, Default Gateway, Preferred DNS, and Alternate DNS should all be 0s if DHCP is selected.
4. Click Save to save these settings. This should now open the main menu.
5. From the main menu, go to **Setup -> Network**.
6. On the TCP/IP settings screen, the IP Address, Subnet Mask, Default Gateway, Preferred DNS, and Alternate DNS should all be populated.
7. Click the radio button next to Static, to change the mode to Static.
8. Write down the IP Address that is currently in the IP address field.
9. Click the **Save** button.
10. Using the left-hand menu, go to the Connection menu, and write down the TCP, UDP, and HTTP port number. It is recommended to ensure that these port numbers are at least 5 digits long to prevent any port conflicts. If need be, change each of these port numbers to a 5-digit number that is less than 65535, note the numbers down, and click save before proceeding to the next step.
11. Go to http://www.canyouseeme.org/ and check to ensure each of the port numbers specified in step 10 is open.
12. Write down the manufacturer name, brand, and model name for the router that the camera is connected to, and then proceed to http://www.portforward.com on your web browser.
13. Open the port forwarding guide section on the left-hand side menu.
14. Find the router brand name in the list and click it.
15. Find the router model number and click it.
16. Click the Default Guide link near the middle of the page.
17. This guide will help you take the step necessary to port forward on the router. Follow these steps, and then return to the camera.
18. Login to your camera, open the main menu then go to Setup -> Network.
19. Click the DDNS menu item on the left-hand menu, pick AMCRESTDDNS from the drop-down box, click the checkbox next to Server Type, and then click the Save button on the bottom right.
20. To set a custom DDNS name, fill out the Domain Name field and click Save.
21. Write down the entire Domain Name field, including the white text that says.AmcrestDDNS.com
22. Open a web browser and enter in the DDNS domain name address from step 21, enter in a colon, then type the HTTP port number from step 10 on to the end.
    For example, if the DDNS domain name is http://abc123456789.AmcrestDDNS.com and your HTTP Port is 33333, the URL would be http://abc123456789.AmcrestDDNS.com:33333
23. Enter in login details into the username and password fields and click login.

If the process above is not working, please contact Amcrest Support via one of the following options:

Visit http://amcrest.com/contact and use the email form
Call Amcrest Support using one of the following numbers.
Toll Free: (888) 212-7538
International Callers (Outside of US): +1-713-893-8956
USA: (888) 212-7538
Canada: 437-888- 0177
UK: 203-769-2757

FCC Statement

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
2. The user's manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes, or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required by this section may be included in the manual in that alternative form, provided the user can reasonably be expected to have the capability to access information in that form.
3. (b) For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual: NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or
television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: -- Reorient or relocate the receiving antenna. -- Increase the separation between the equipment and receiver. -- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. -- Consult the dealer or an experienced radio/TV technician for help.
4. RF exposure warning This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.
End-users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

Appendix A: Toxic or Hazardous Materials or Elements

Component Name	Toxic or Hazardous Materials or Elements					
	Pb	**Hg**	**Cd**	**Cr VI**	**PBB**	**PBDE**
Sheet Metal	O	O	O	O	O	O
Plastic Parts	O	O	O	O	O	O
Circuit Board	O	O	O	O	O	O
Fastener	O	O	O	O	O	O
Wire and Cable/Ac Adapter	O	O	O	O	O	O
Packing Material	O	O	O	O	O	O
Accessories	O	O	O	O	O	O

O: Indicates that the concentration of the hazardous substance in all homogeneous materials in the parts is below the relevant threshold of the SJ/T11363-2006 standard.
X: Indicates that the concentration of the hazardous substance of at least one of all homogeneous materials in the parts is above the relevant threshold of the SJ/T11363-2006 standard. During the environmental-friendly use period (EFUP) period, the toxic or hazardous substance or elements contained in products will not leak or mutate so that the use of these (substances or elements) will not result in any severe environmental pollution, any bodily injury or damage to any assets. The consumer is not authorized to process such kind of substances or elements, please return to the corresponding local authorities to process according to your local government statutes.

O: Indicates that the concentration of the hazardous substance in all homogeneous materials in the parts is below the relevant threshold of the SJ/T11363-2006 standard.
X: Indicates that the concentration of the hazardous substance of at least one of all homogeneous materials in the parts is above the relevant threshold of the SJ/T11363-2006 standard. During the environmental-friendly use period (EFUP) period, the toxic or hazardous substance or elements contained in products will not leak or mutate so that the use of these (substances or elements) will not result in any severe environmental pollution, any bodily injury or damage to any assets. The consumer is not authorized to process such kind of substances or elements, please return to the corresponding local authorities to process according to your local government statutes.

Note:
To view setup videos for many of the steps outlined in this guide, go to http://amcrest.com/videos
This user manual is for reference only. Slight differences may be found in the user interface.
All the designs and software here are subject to change without prior written notice.
All trademarks and registered trademarks mentioned are the properties of their respective owners.

To contact Amcrest support, please do one of the following:

Visit http://amcrest.com/contact and use the email form
Call Amcrest Support using one of the following numbers:
Toll Free US: (888) 212-7538
International Callers (Outside of US): +1-713-893-8956
USA: 713-893-8956
Canada: 437-888-0177
UK: 203-769-2757