Eagle Eye Application Note - AN054

Configuring Camera Models Supported by Eagle Eye Networks via ONVIF

2024-08-13 Revision 2.0

Target Audience

This Application Note is intended for Eagle Eye Cloud VMS account administrators who are responsible for the setup and configuration of the VMS, and seek to install and configure third-party cameras.

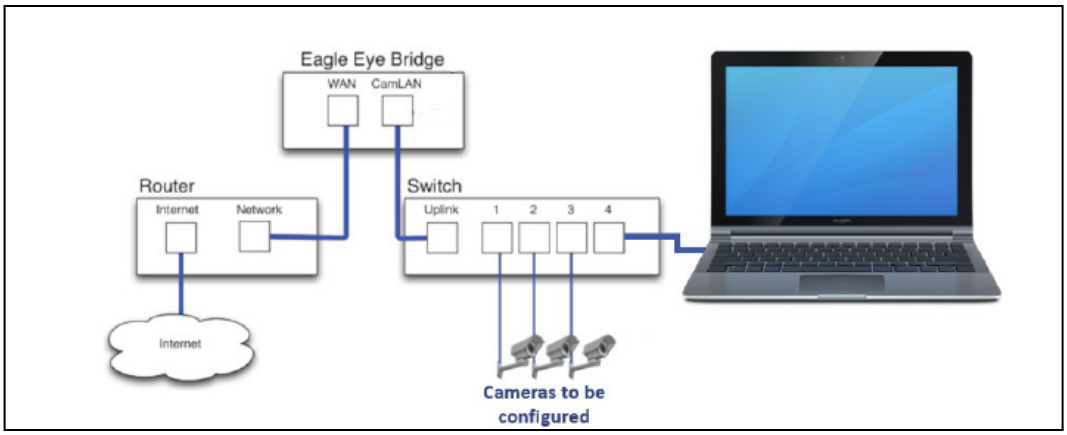
Introduction

This document helps in understanding how to configure third-party ONVIF IPC (IP camera) brands for integration with the Eagle Eye Cloud VMS. By following this guide, administrators can unlock the functionalities of both the Eagle Eye Cloud VMS and the integrated third-party cameras, enhancing their overall video surveillance capabilities. This guide illustrates how to configure the camera brands supported by Eagle Eye Networks via ONVIF for integration with the Eagle Eye Security Camera System. Please click on the brand of the camera that you want to install.

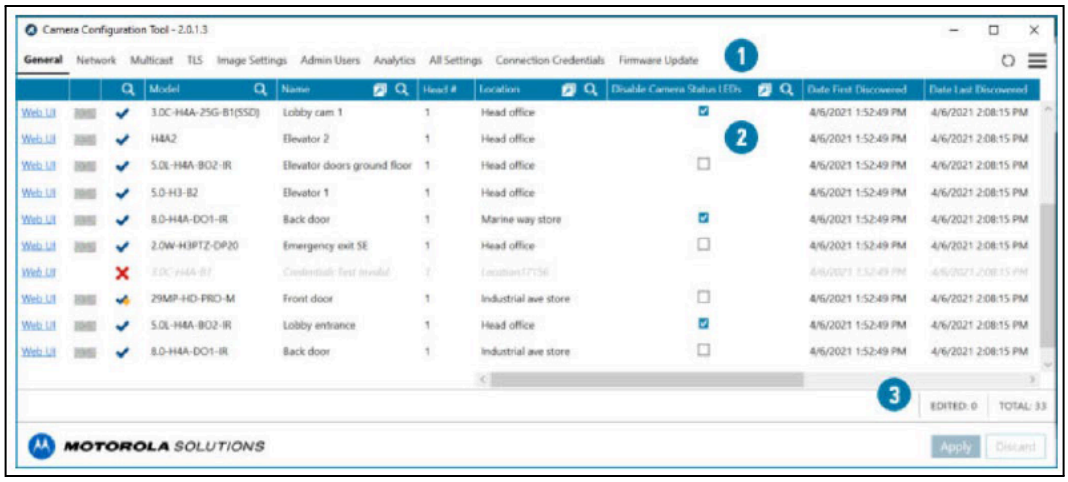
1. Avigilon IP Cameras
2. Axis Cameras
3. Geovision IP Cameras
4. Hanwha Q Series Cameras
5. Hikvision Cameras
6. iPro IP Cameras
7. Mobotix/MOVE Cameras
8. Pelco IP Cameras
9. Ubiquiti IP Cameras
10. Vivotek IP Cameras

Avigilon IP Cameras

Download the Avigilon Camera Configuration Tool from Avigilon's website, and connect your laptop to the switch with the cameras. This should be the switch connected to the CamLAN port on your Eagle Eye Bridge/CMVR.

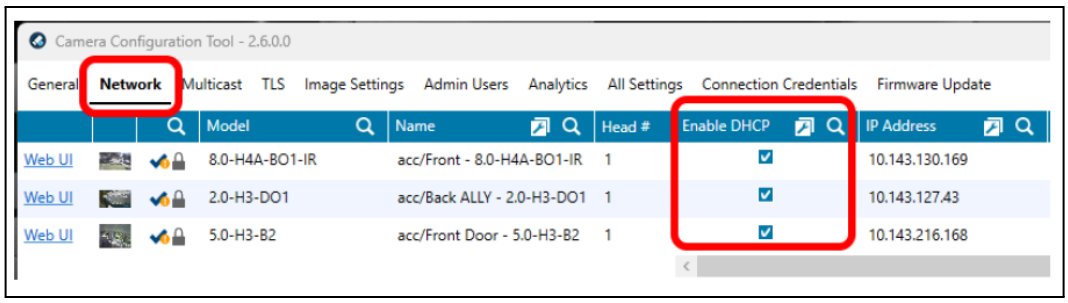


After you log in to all the cameras, the application window presents you with a list of all the cameras that were automatically detected in the system.

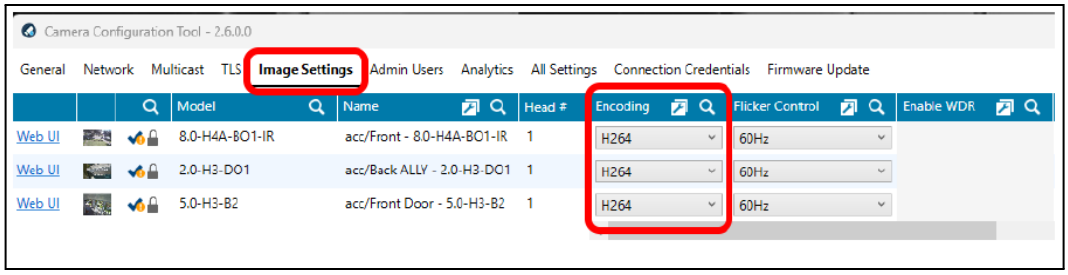


1. **Menu bar** — the camera settings tabs are displayed on the left, and the additional task menu is available on the right.
2. **Camera list** — the list of discovered cameras and their related settings.
3. **Implementation area** — this displays the total number of discovered cameras, and the number of cameras with pending setting changes. Changes are not implemented until you click **Apply**.

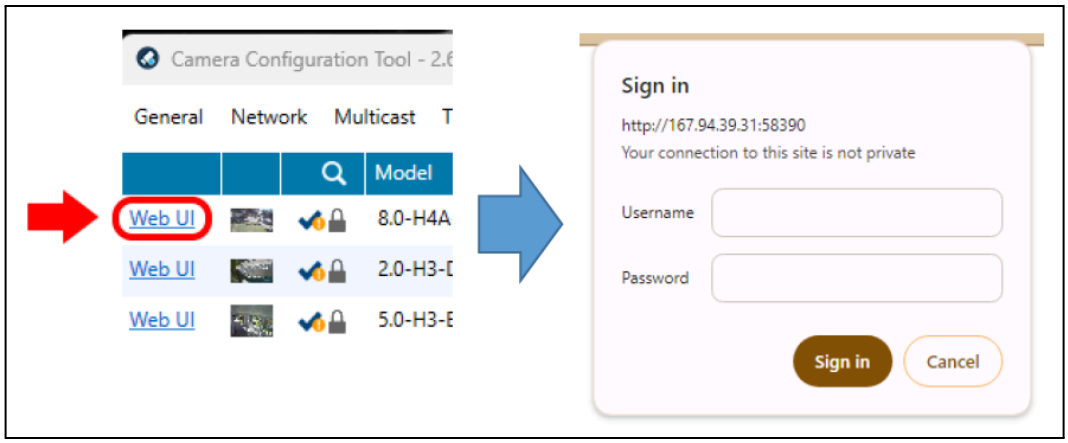
1. On the network tab, select **Enable DHCP**.



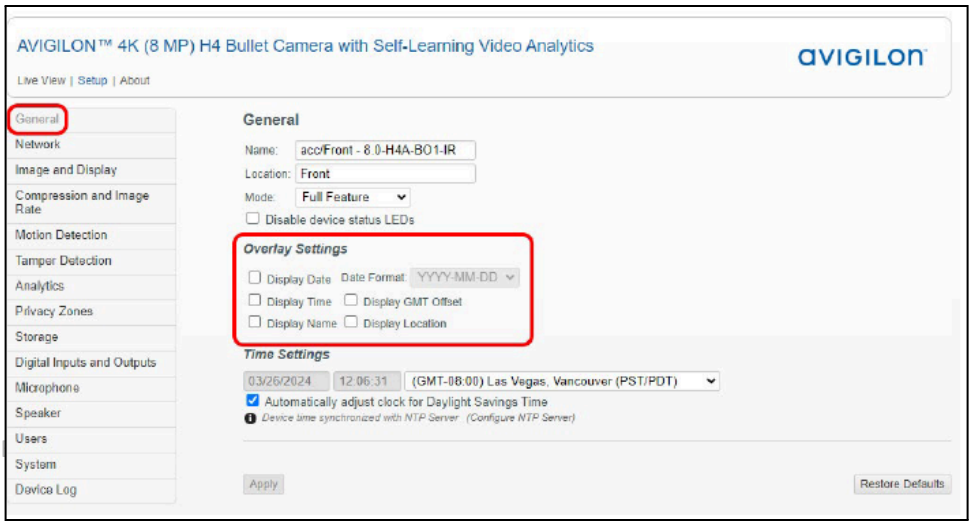
2. In Image Settings, select H.264 Encoding.



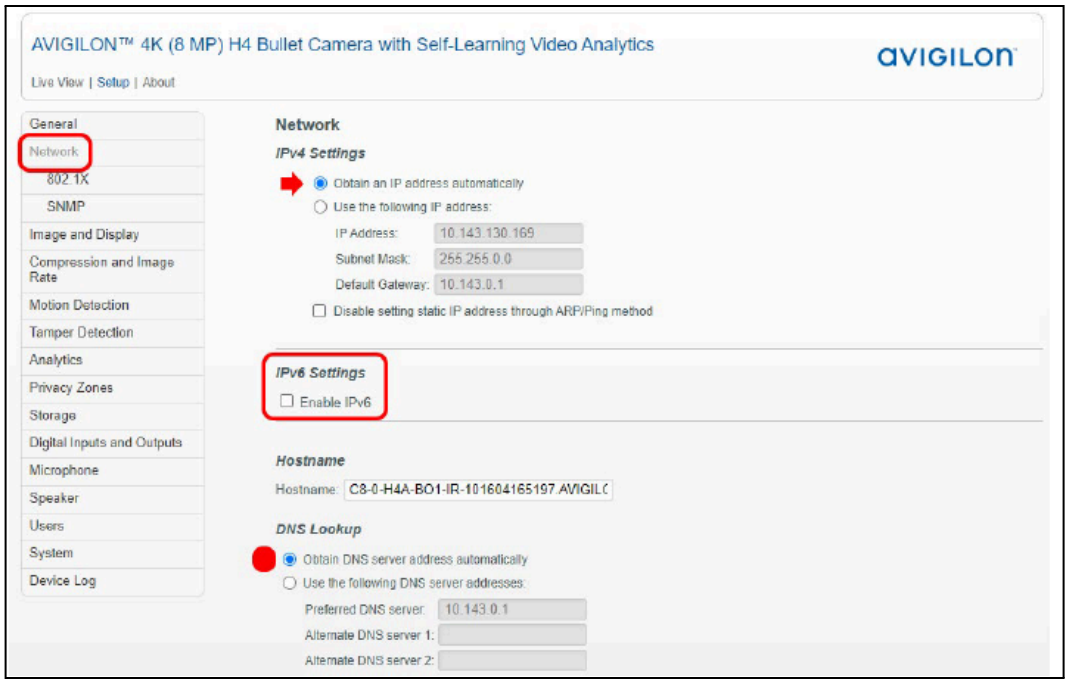
3. Enter camera webpage; default username/password are admin/admin.



4. Under Setup -> General make sure the text overlay (OSD) is disabled.



5. Under Network -> Make sure IP address was successfully obtained and that IPv6 is disabled.

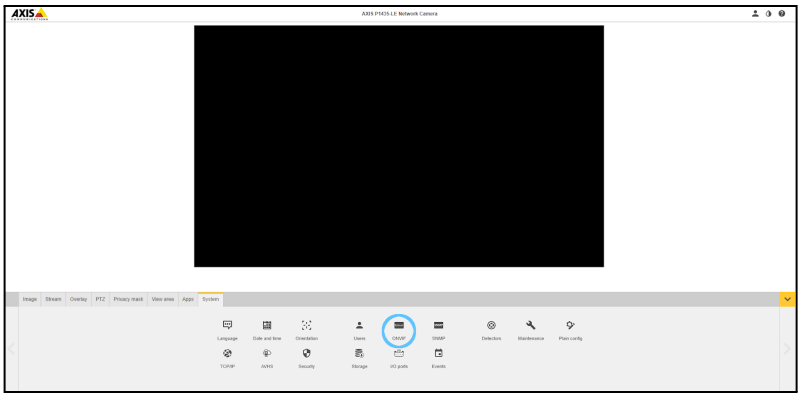


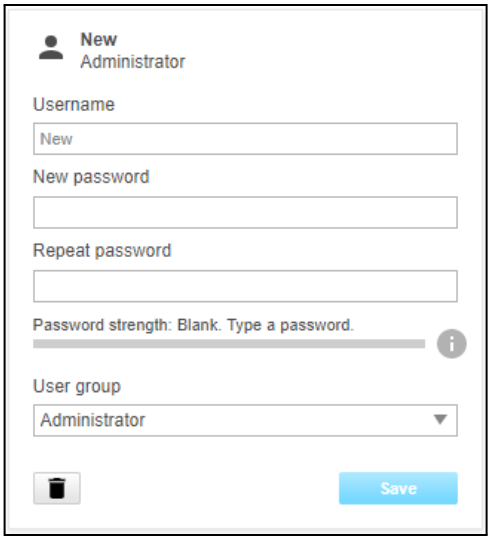
6. Verify that the first stream is set to H.264, and the second stream is set to MJPEG.

7. Reboot camera, navigate to Eagle Eye VMS, and add the camera to the Bridge/CMVR.

Axis Cameras

Most Axis cameras' default settings are compatible with the Eagle Eye Cloud VMS. The main functionality that needs to be set up for the camera to stream is ONVIF.

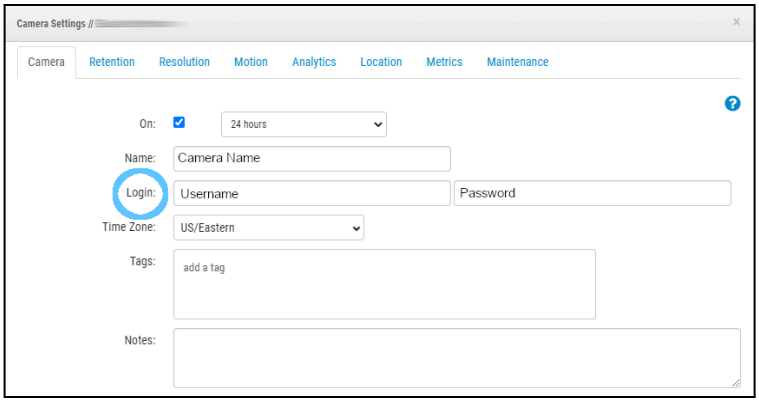


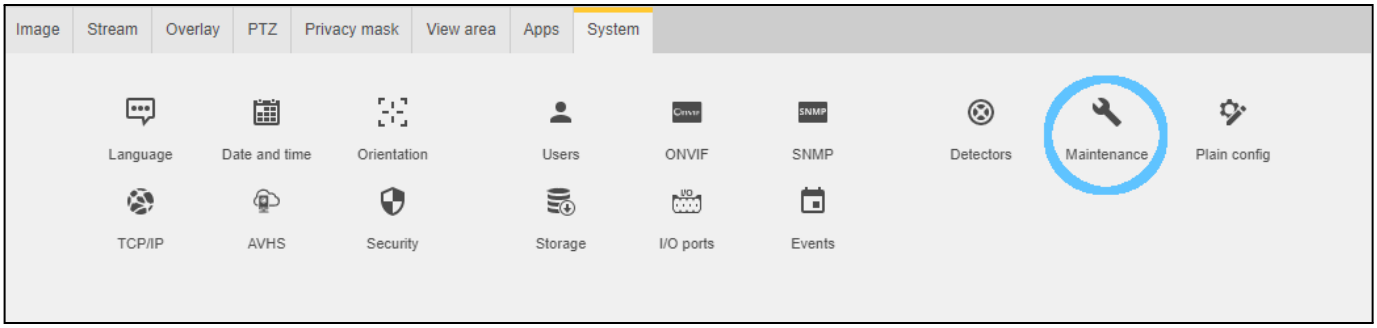


Follow these steps to enable ONVIF functionality.

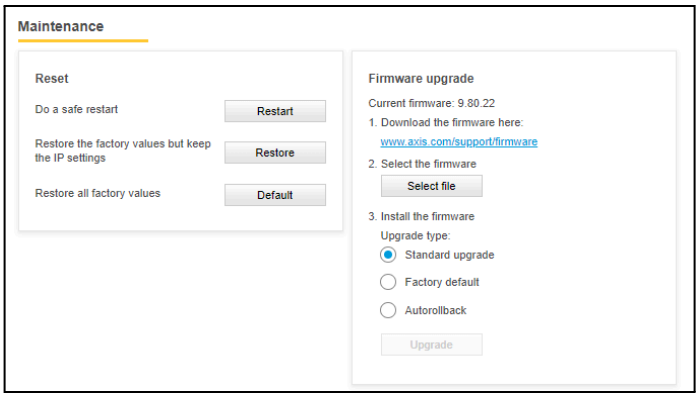
- Log in to your camera, and under the **System** tab select **ONVIF.**
- In the **ONVIF** section, create an ONVIF user. The password **cannot** contain special characters; utilize the "-" or the "_" if the camera requires special characters. Ensure the profile has **Administrator** privileges and click **Save**. It is best if the camera login credentials and the ONVIF login are identical. If they are not the same, some features may not work properly.
- In the Eagle Eye Cloud VMS dashboard, type the username and password for the **ONVIF** profile into the camera settings.

If there are still issues, please try adjusting the following camera settings: Ensure the camera is on a currently supported firmware version by checking the **Maintenance** section under the **System** tab and comparing with our Camera Compatibility List.

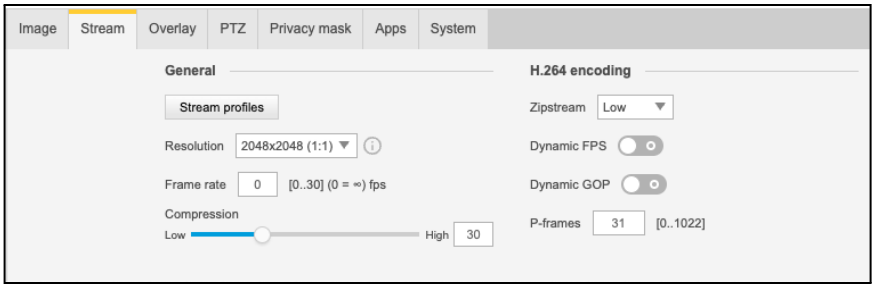




If the camera needs to be updated, please follow the manufacturer's instructions. Eagle Eye Networks is **not** authorized to update third-party devices.

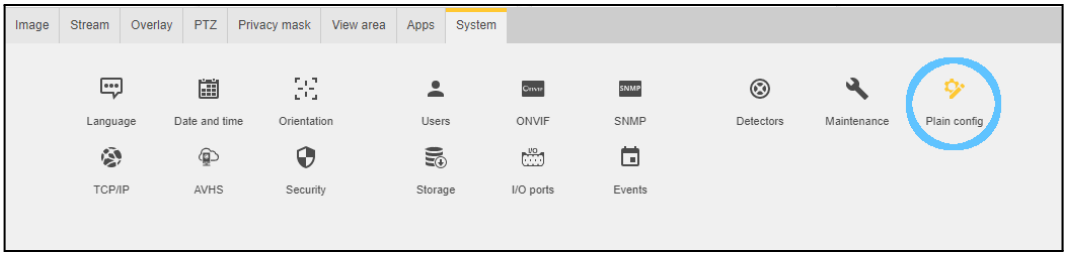


+Stream Configuration:
The camera streams need to be configured with the correct encoding profile so the device is able to stream. Resolution options are available based on camera support integration, so be sure to choose from the resolutions available on the Dashboard rather than within the camera.

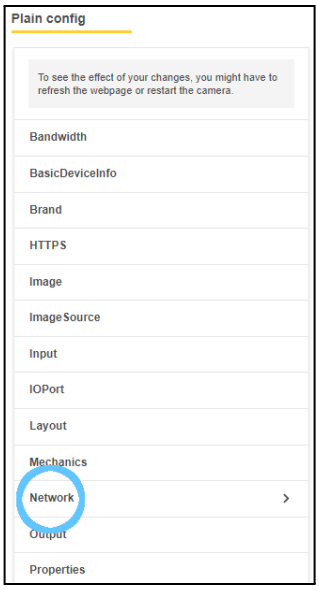


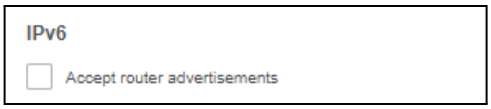
- Under the **Stream** tab, select Stream Profiles.
- Create a new profile titled Main Stream and select H.264.
- Under the General section, set the Frame Rate to 12 FPS.
- Click Create.
- Create another profile titled SubStream and select M-JPEG.
- Under the General section, set the Frame Rate to 8FPS.
- Click Create.

Advanced Settings:
In the **System** tab select **Plain Config**



Select the **Network** option
In this section, disable the following options: **Bonjour**, **IPV6**, **ZeroConf, UPnP**





Once these options are disabled, select **Save** and **reboot** the device.

<u>Configuring 2N Axis Cameras:</u>
Supported Axis cameras:

- 2N Axis Base
- 2N Axis Solo
- 2N Axis Style
- 2N Axis Verso

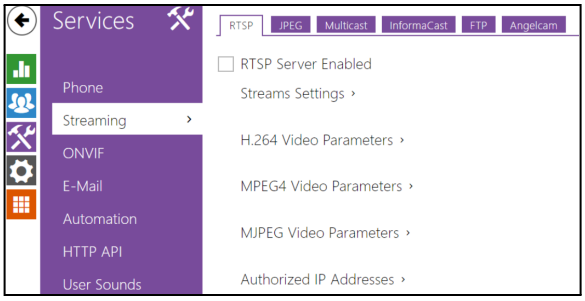
The minimum firmware required for adding the cameras is: 2.38.0.50.3. Models not listed above (under cameras and firmware) are not compatible with ONVIF.

Note: 2N IP Axis doorbell cameras cannot be reached via cloud tunnels (Satellite VPN icon) at the moment. All tunnels to these cameras must be established locally.

Follow these steps to configure the cameras:

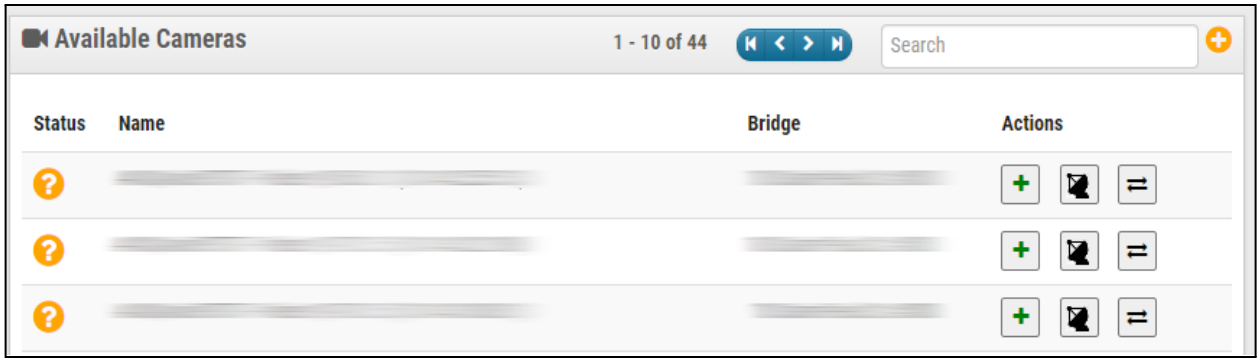
- ONVIF must be enabled and ONVIF credentials made as **Administrator** (important).
- RTSP Server Enabled - Yes
- H.264 video encoding is set to 15 fps and HD1 (720) or HD2 (1080) resolution.

- MJPEG video encoding is set no higher than 6 fps and CIF resolution.

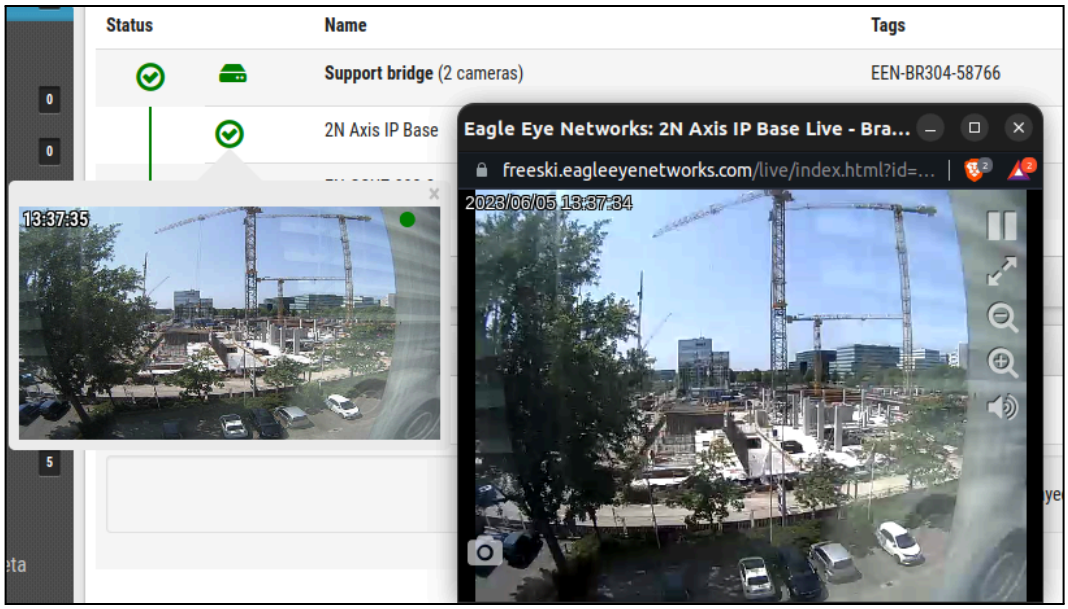


The camera will then populate the Available Cameras section of the dashboard.

- Click the green "plus" icon and fill out the camera's username and password with the information you created for the ONVIF profile.
- Adjust the Resolution and Retention settings as needed.
- Click Save. The camera will then be attached to the account.



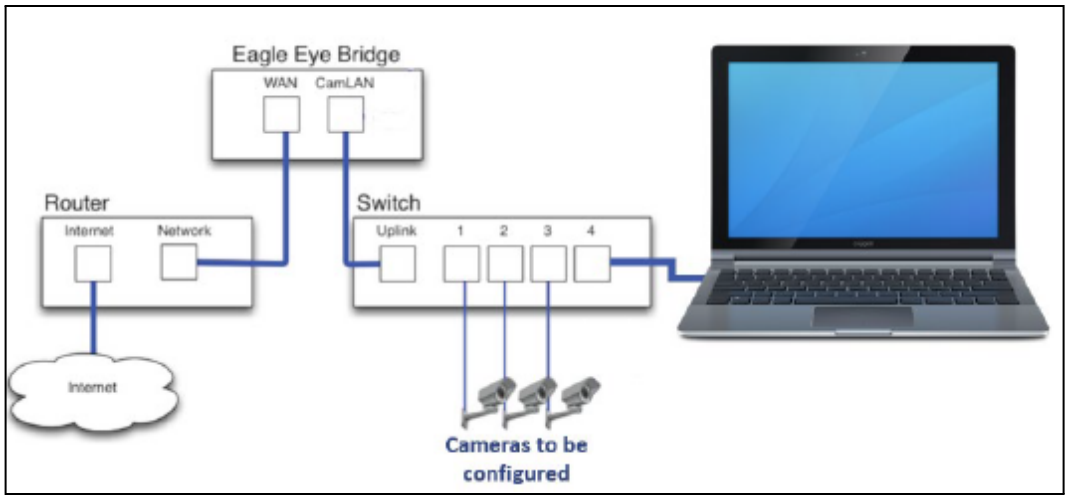
If the camera does not come online within a few moments, please reach out to our support team for assistance.



Geovision IP Cameras

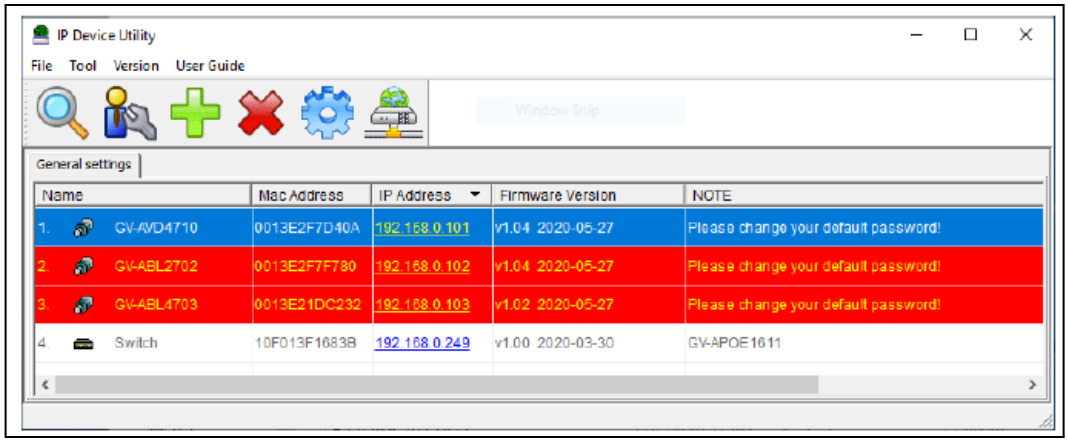
Looking up the dynamic IP address and logging in: By default, when the device is connected to LAN with a DHCP server, it is automatically assigned a dynamic IP address. Follow the steps below to look up its IP address and log in the Web interface.

1. Download and install the GV-IP Device Utility from Geovision's website.



Note:
• The PC installed with GV-IP Device Utility must be under the same LAN as the camera you wish to configure.
• The Administrator username is "admin," and cannot be modified.

2. Within the GV-IP Device Utility, click the magnifying glass icon to search for the IP devices connected in the same LAN. Click the Name or MAC Address column to sort.



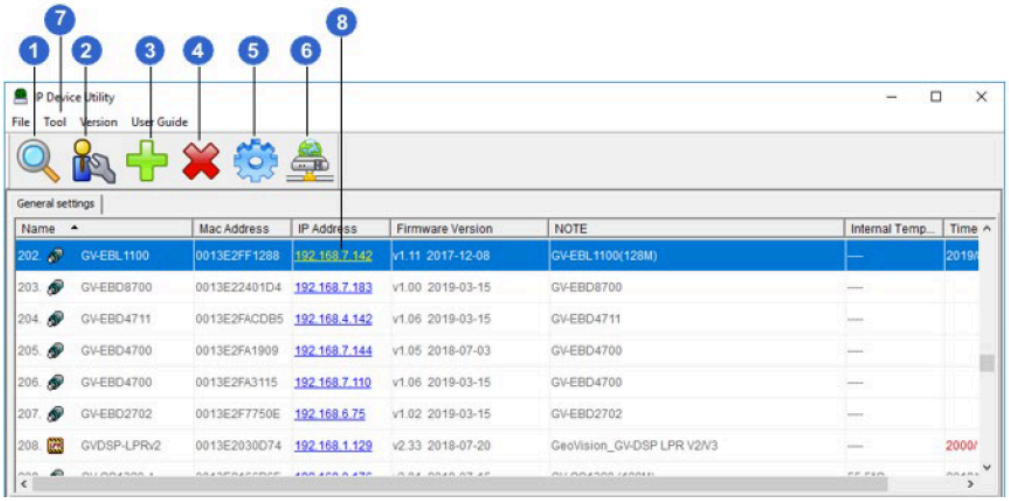
3. Find the camera with its Mac Address and click on its IP address.

4. First-time users will be requested to set up a password.

5. Type a new password and click OK.

6. Type your username and password on the login page and click Login.

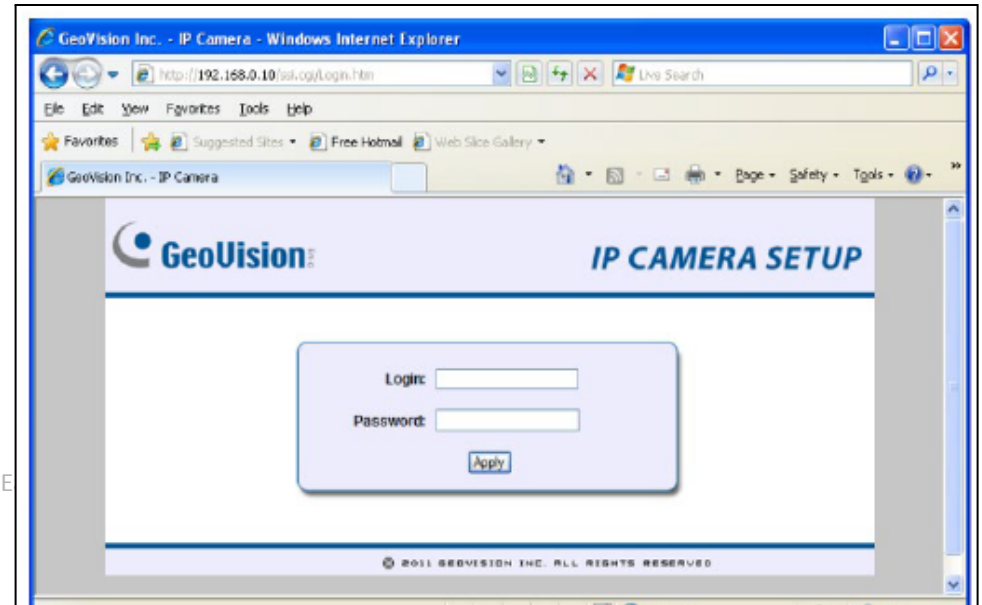
The GV-IP Device Utility Window



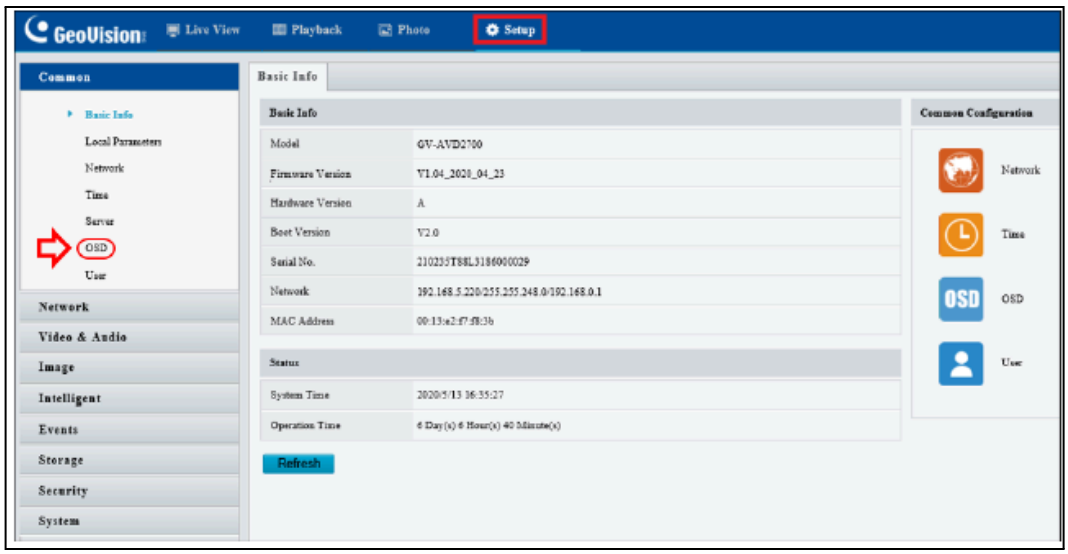
The controls in the window:

No.	Name	Description
1	Search	Searches for any GV devices under the same LAN.
2	Auto Set IP Address	Automatically assigns unused IP addresses on the LAN to the device
3	Add	Adds a GV device to the list.
4	Delete	Deletes a device from the list.
5	Configure	Specifies a network adaptor.
6	Check the Latest Firmware	Lists all GV devices with newer firmware available.
7	Tool (on the menu bar)	Contains these features: **Temperature Monitoring, GV-Software Camera Setting, Export/Import optional functions, UPnP function** (enables and disables UPnP)
8	IP Address	Click on the field to access the Camera Web Page which include: Live View & Camera Settings. **Note:** The features available vary among models of GV devices.

7. Click onCamera IP Address (item 8 in the graphic above) and log in with Admin and your password on the screen below.

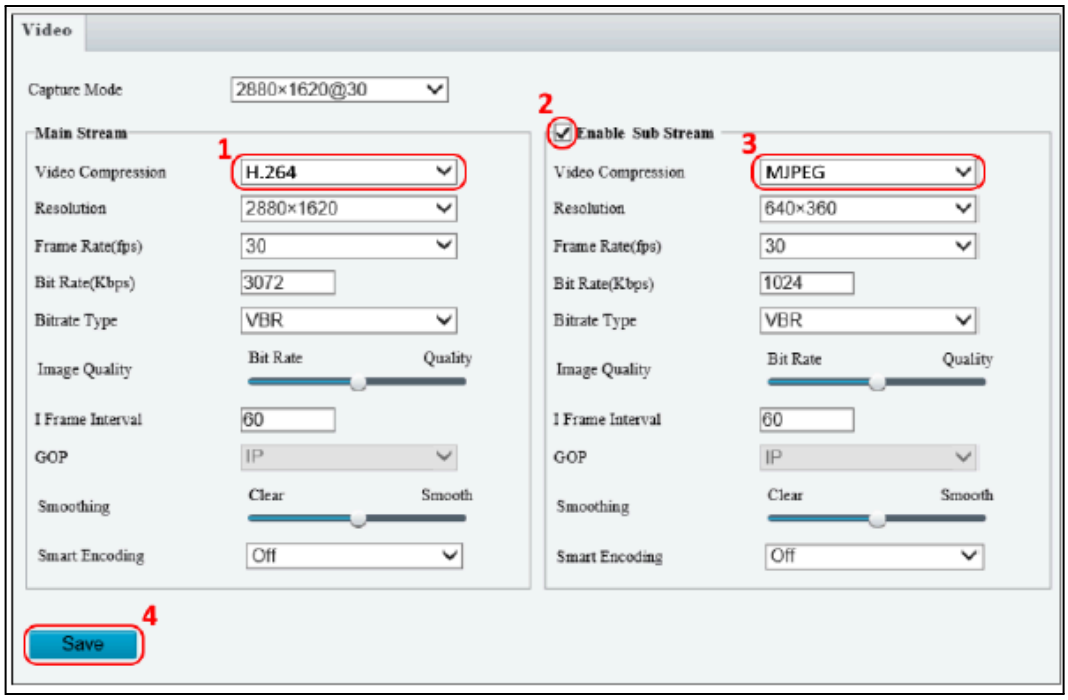


8. Under Setup -> Common, click on the OSD (On Screen Display) button.



9. Disable any OSD overlays, and save changes.

10. Under Setup -> Video perform the following actions:
1) Change to H.264.
2) Enable Sub Stream.
3) Change to MJPEG.
4) Save changes.



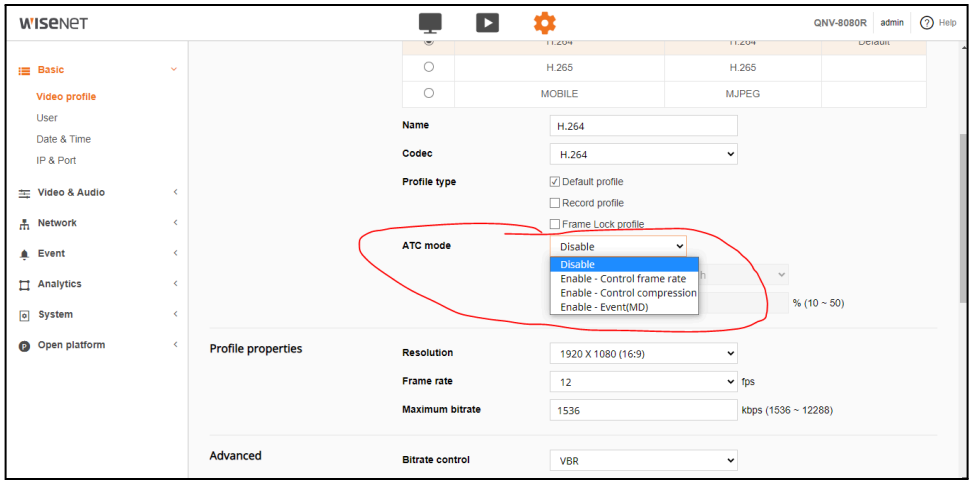
11. Reboot camera, go to Eagle Eye VMS and add the camera to the Bridge/CMVR.

Hanwha Q Series Cameras

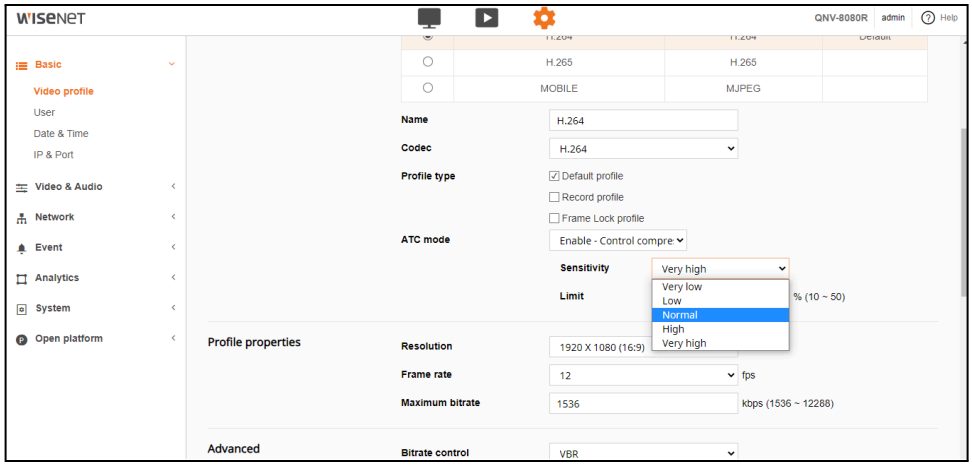
Hanwha Q series cameras work well with Eagle Eye Networks Cloud VMS, but must be set up correctly to prevent constant motion recording. The steps below will walk you through the setup.

Step 1: Log in to the camera. You may do this locally before adding the camera to Eagle Eye Cloud VMS or you may VPN into the camera after it is added to the VMS using the Eagle Eye Web User Interface. Once you are logged into the camera, click the gear icon at the top to access the settings.

Step 2: Under Basic/Video profile, select H.264 and change the ATC Mode from Disabled to Enable - Control Compression.



Step 3: Set Sensitivity from Very High to Normal. Press Apply.

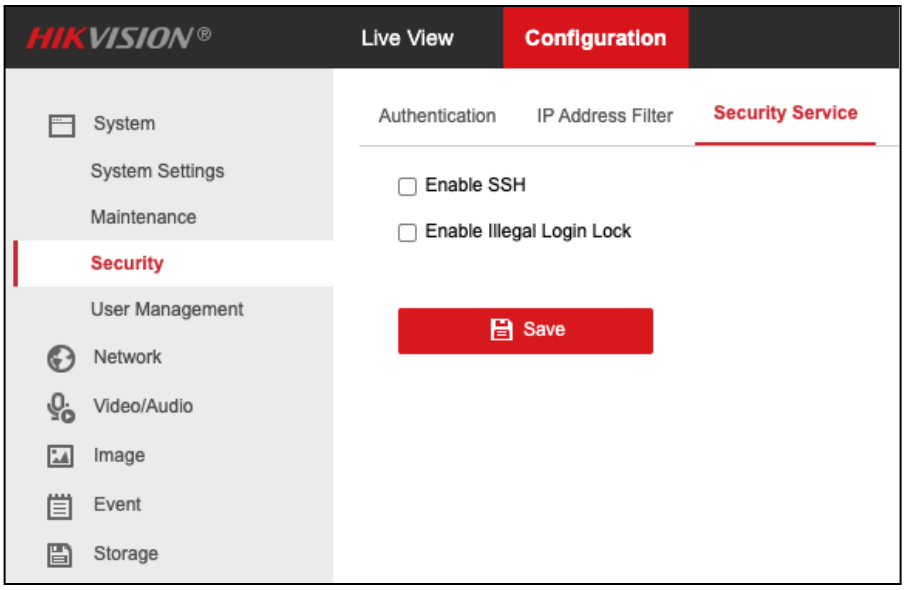


Step 4: Repeat the process for the Mobile Profile.

These steps need to be completed for every camera. Once these are complete on the camera, no additional steps need to be taken on the Eagle Eye Cloud VMS.

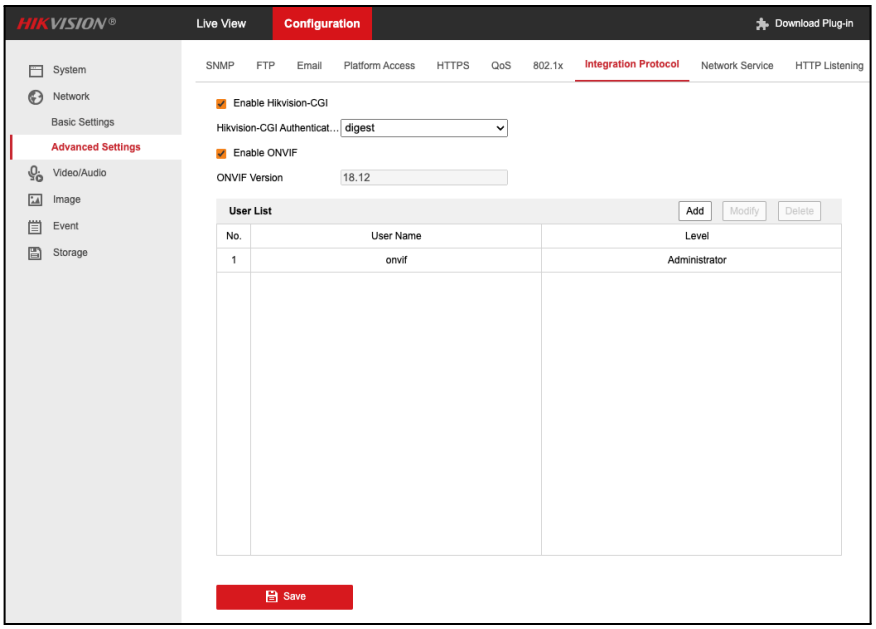
Hikvision Cameras

1. Log in to the Hikvision camera.
2. Select System>Security.
3. Select Security Service.
4. Deselect Enable Login Lock.
5. Click Save.



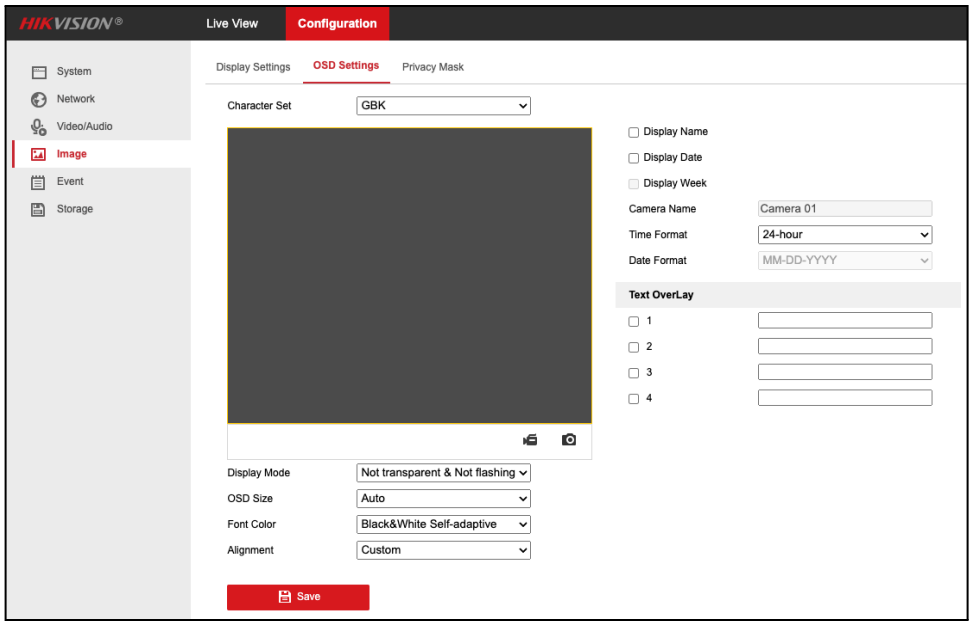
Set up ONVIF:

1. Log in to the Hikvision Camera.
2. Select Network>Advanced Settings.
3. Select Integration Protocol.
4. Select Enable Hikvision-CGI.
5. From the Hikvision-CGI Authentication drop-down select Digest. (If Digest&WS-UsernameToken is available, use this instead.)
6. Select Enable ONVIF.
7. Add a User, with the same login information as the camera, at Administrator level.
8. Click Save.



Disable on-screen display:

1. Log in to the Hikvision Camera.
2. Select Image>OSD Settings.
3. Deselect Display Date.
4. Click Save.

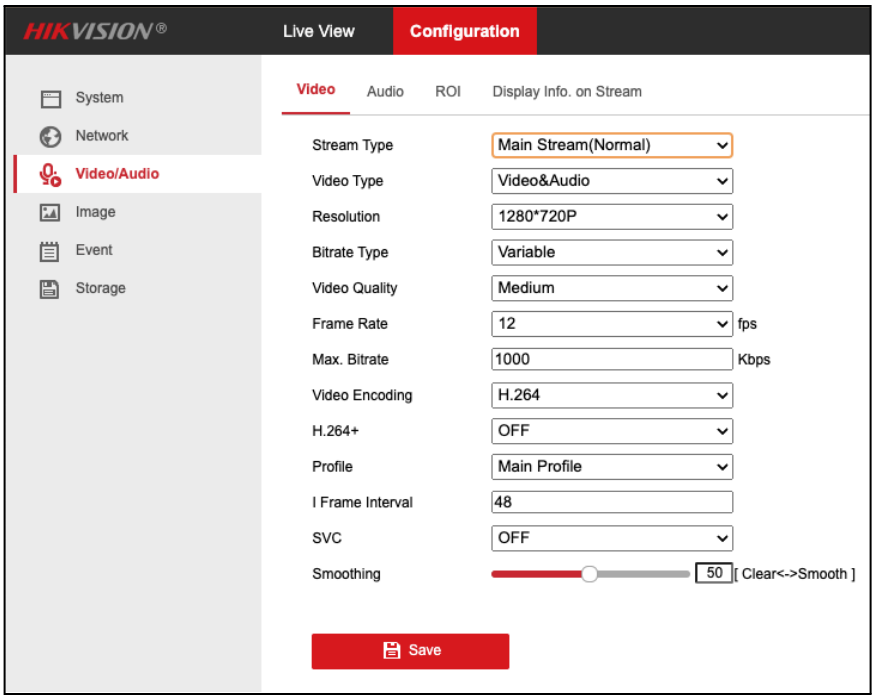


Note: The OSD can cause motion events in the Eagle Eye system triggering recording, making this step necessary to reduce bandwidth and unnecessary data retention.

Mainstream and sub-stream configuration:

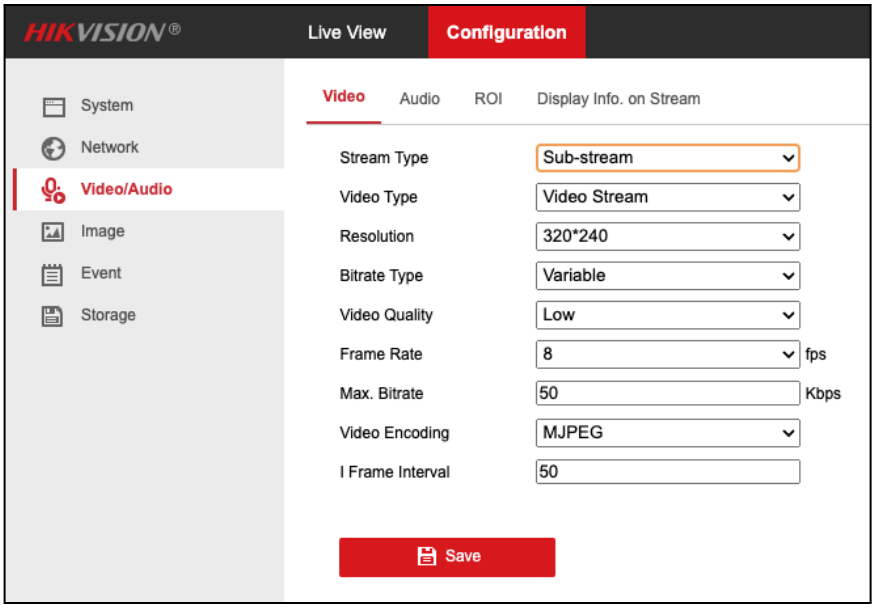
<u>Mainstream</u>

1. Select Video/Audio>Video.
2. From the Stream Type drop-down select Main Stream (Normal).
3. Select the preferred Resolution.
4. Select 12fps for the Frame Rate.
5. Select H.264 for Video Encoding.
6. Ensure H.264+ is OFF.
7. Click Save.



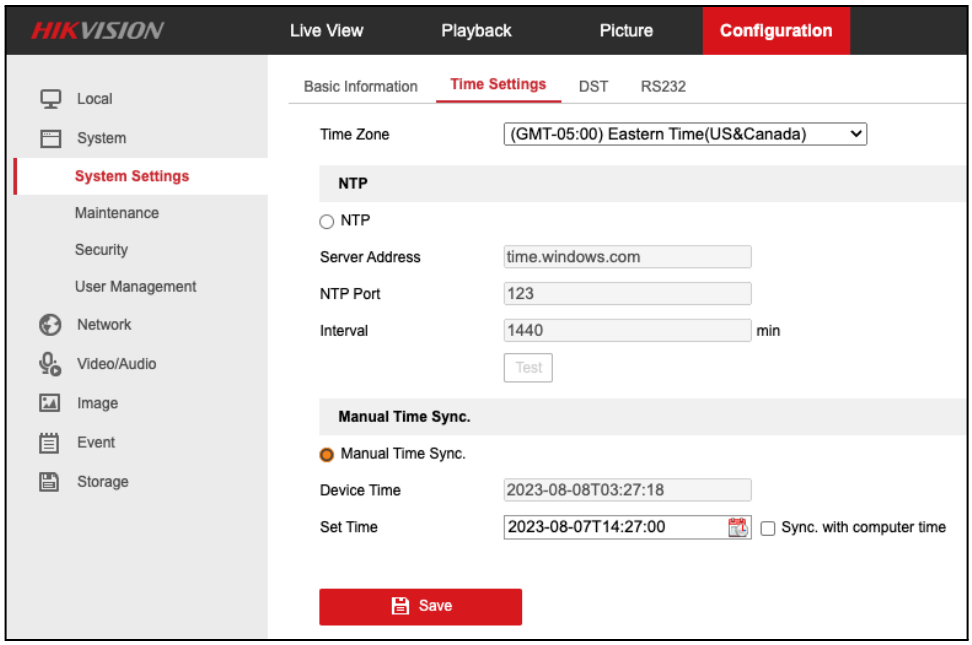
Sub-Stream

1. Select Video/Audio>Video.
2. From the Stream Type drop-down select Sub-stream.
3. Select the preferred Resolution.
4. Select 8fps for the Frame Rate.
5. Select MJPEG for Video Encoding.
6. Select Save.



Time settings:

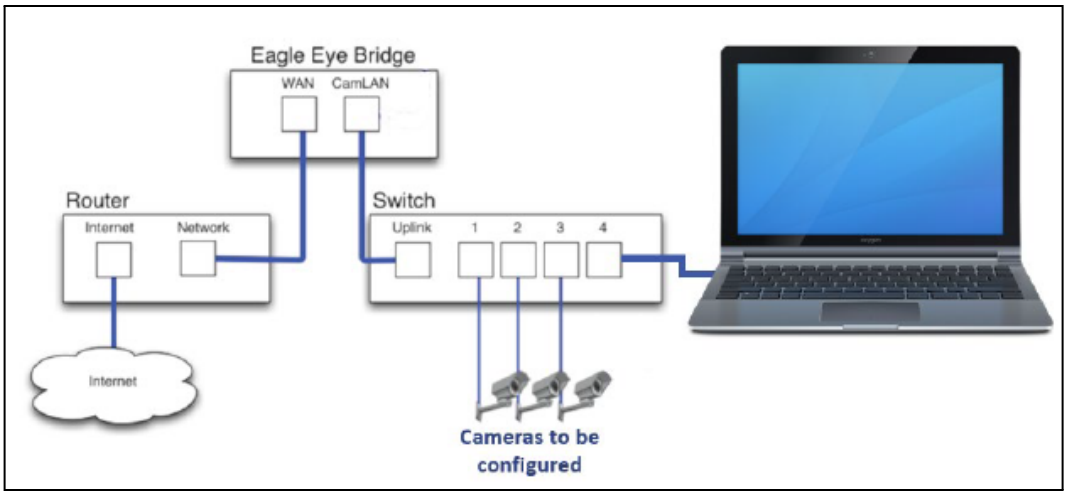
1. Select System>System Settings.
2. Select Time Settings.
3. Ensure the Time Zone is correct.
4. Click Save.



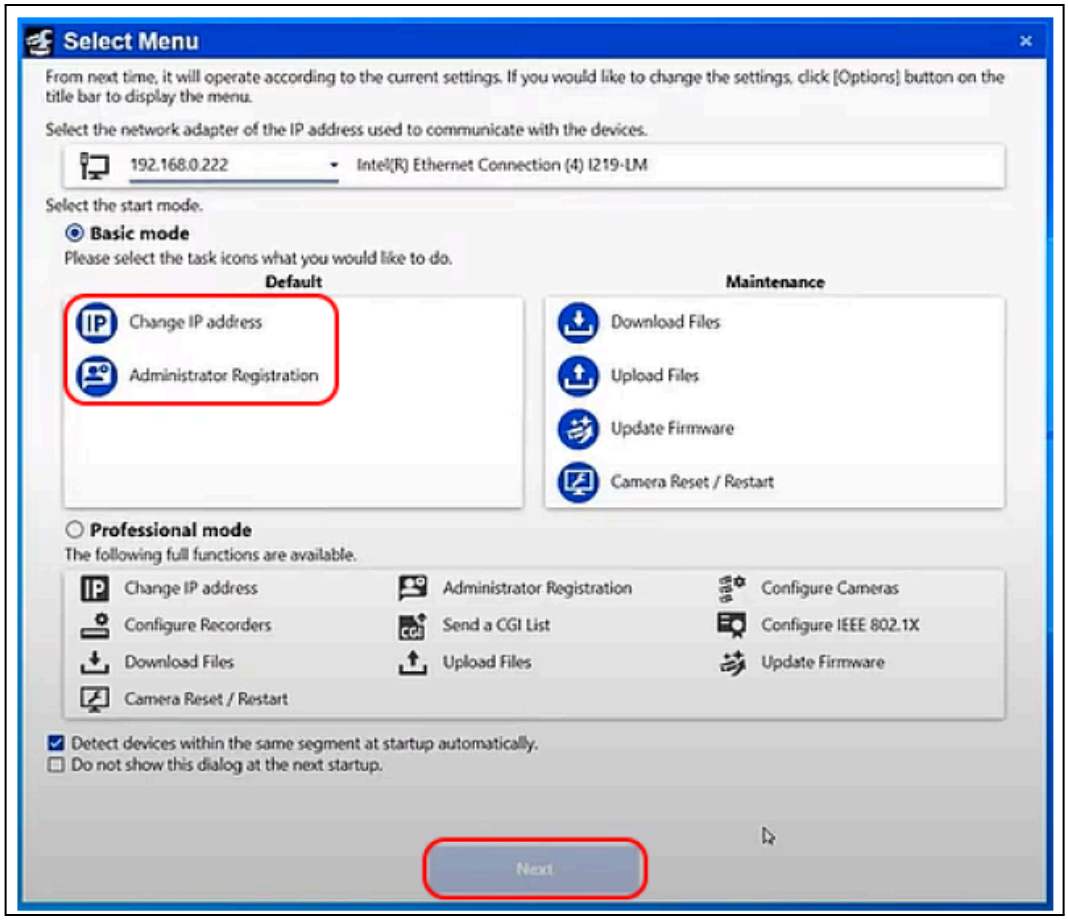
If there are any issues selecting the time zone, attempt to sync with computer time.

iPro Cameras

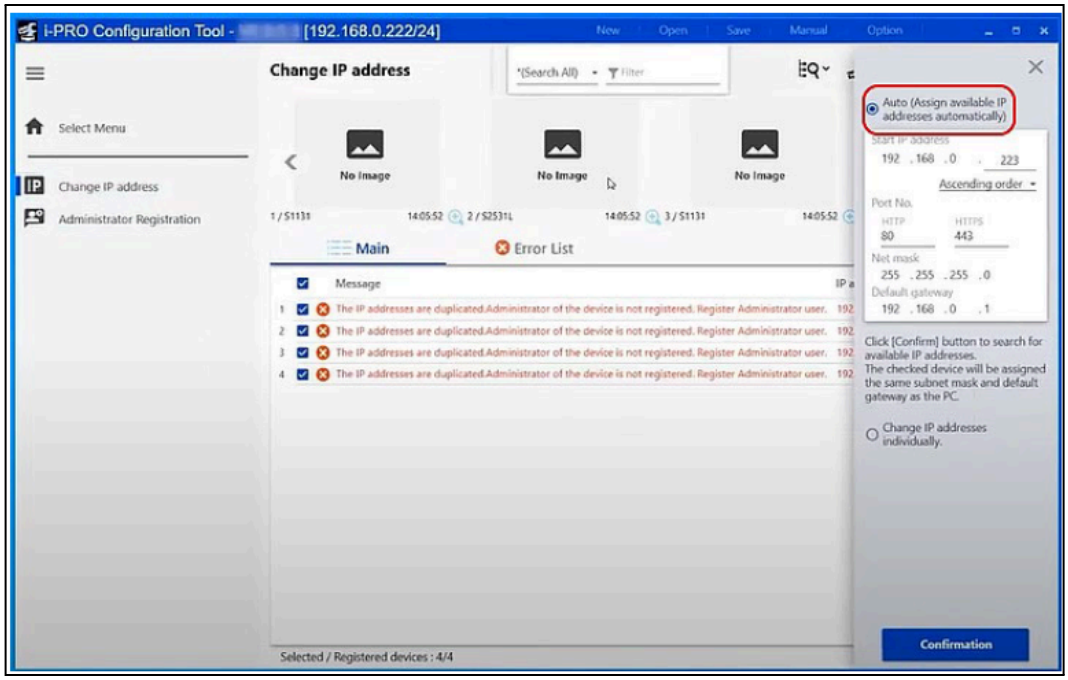
Connect your laptop to the switch with the cameras after downloading the i-Pro Configuration Tool from iPro's website.
This should be the switch connected to the CamLAN port on your Eagle Eye Bridge/CMVR.



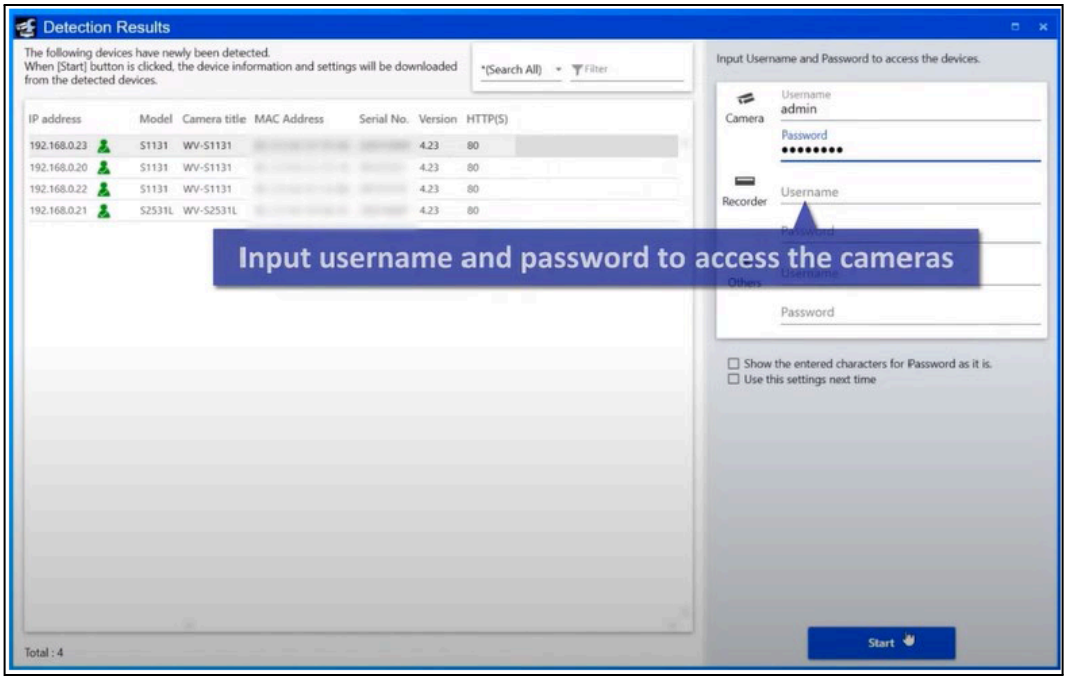
Navigating the Configuration Tool:
After launching the application, select Change IP address and Administrator Registration, then click Next.



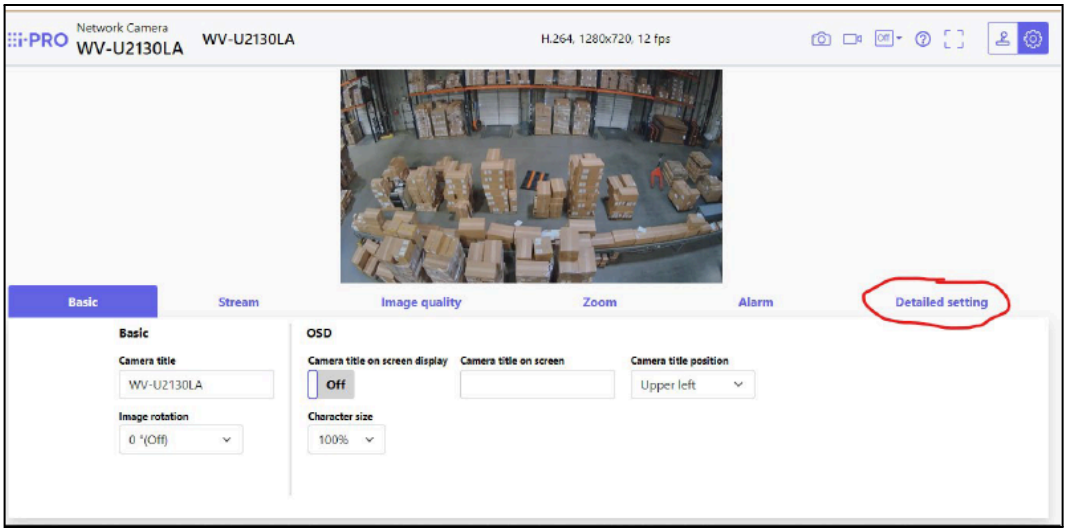
1. Make sure DHCP is enabled.



2. Enter camera webpage; default username/password are admin/123456

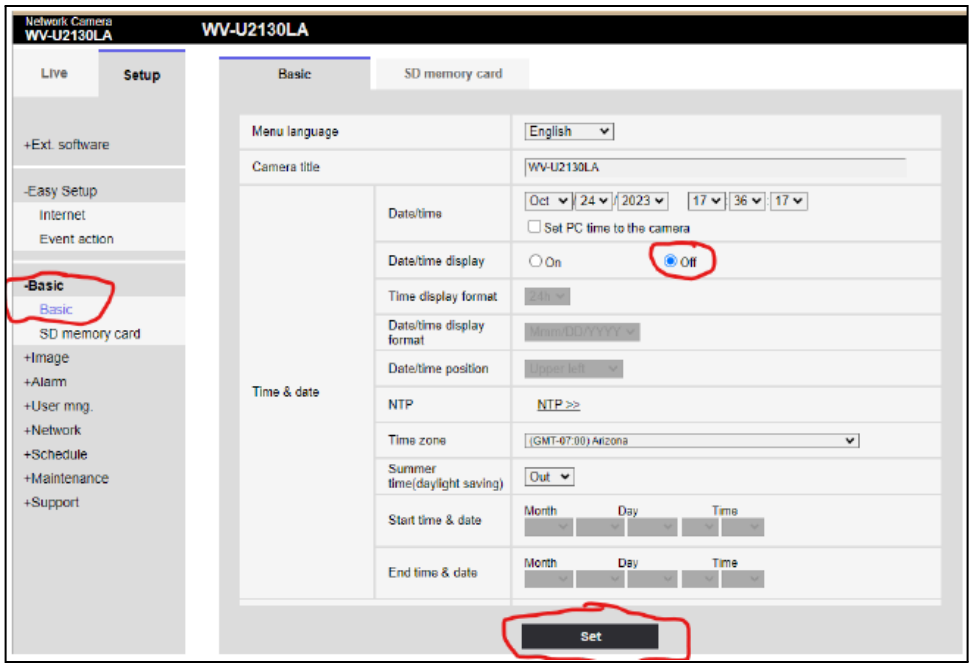


3. Go to Detailed Setting.



4. Under Basic -> Make sure Date and time is off, and OSD is off.

5. Verify H.264 is enabled for the first stream, and that the second stream is MJPEG.

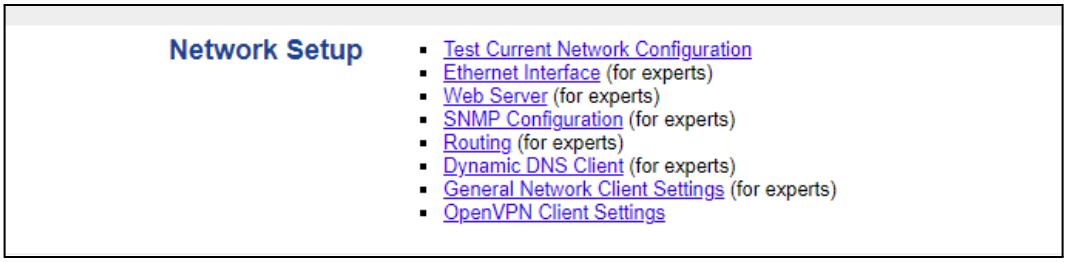


6. Reboot camera, navigate to Eagle Eye VMS and add the camera to the Bridge/CMVR.

Mobotix/MOVE Cameras

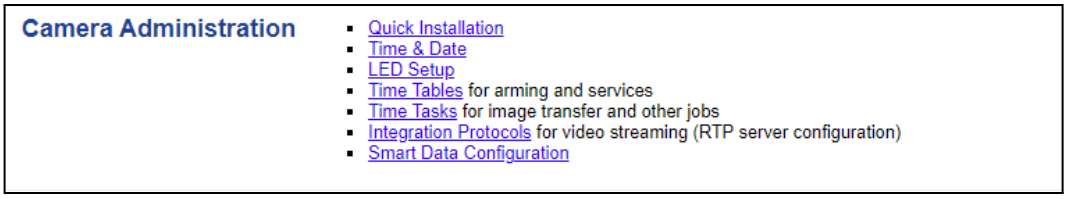
To ensure your Mobotix camera integrates with the Eagle Eye Cloud VMS properly, the following configuration specifications need to be met.

After logging in to the camera, navigate to the *Admin Menu* in the top-left corner.
Go to the Network Setup section to configure the IP and HTTP settings.

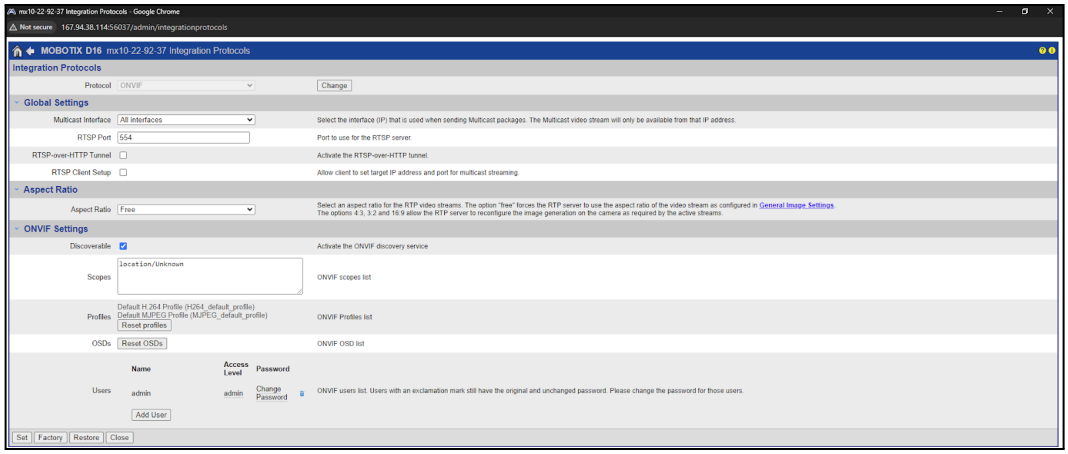


Ethernet Interface: Change to a static IP, or set dynamically as needed.
Web Server: Disable HTTPS for ease of integration.

Go to the Camera Administration section.



Select Integration Protocols to configure this protocol.

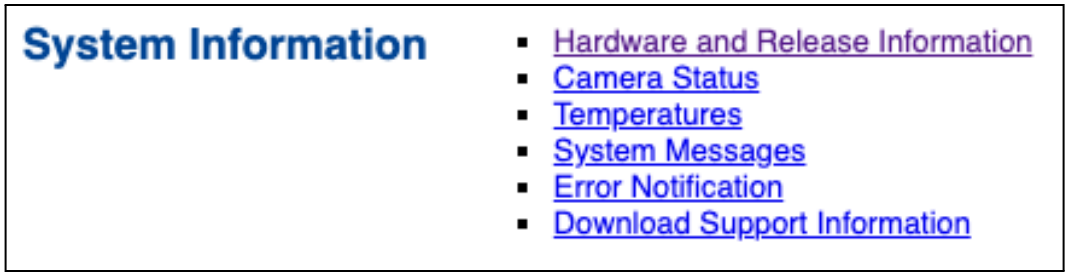


- Ensure the active Protocol is ONVIF.
- Check Discoverable, under ONVIF Settings.
- Add a user with Admin access.
    - It is best to match the camera login and ONVIF login for best integration.

- Click Set to confirm the configuration.

Note: The aspect ratio can be set to Free. However, special features (PTZ, Fisheye, Thermal, etc.) only work with a fixed aspect ratio. If you don't see the Fisheye / PTZ tab in the camera settings on the Dashboard, set an aspect ratio here.

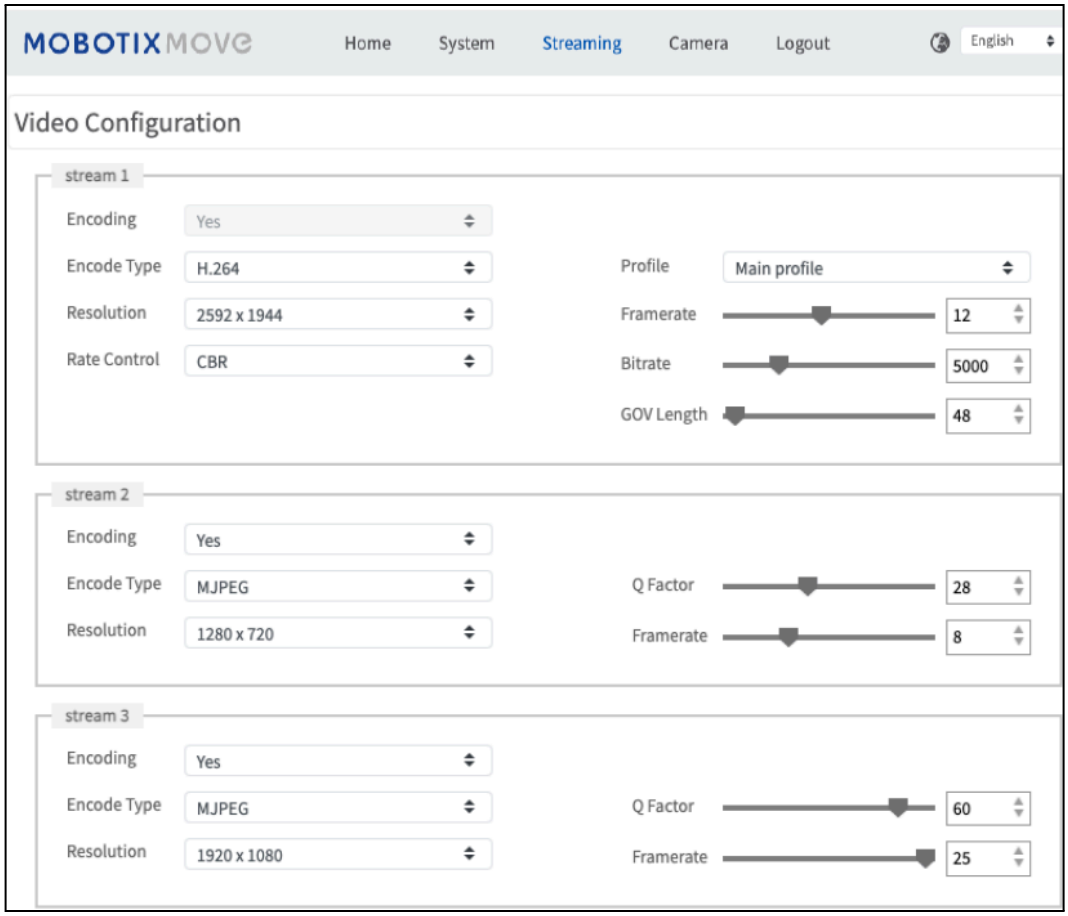
Ensure the camera's firmware is up-to-date as per the Mobotix website. You can check the current firmware version via the System Information menu under Hardware and Release Information.



MOVE Cameras

MOVE cameras are not Mobotix in the classic sense as they are made by a different manufacturer. This makes them much simpler; you'll find that they are very similar to most other IP cameras you work with.

Click on the Streaming tab at the top.

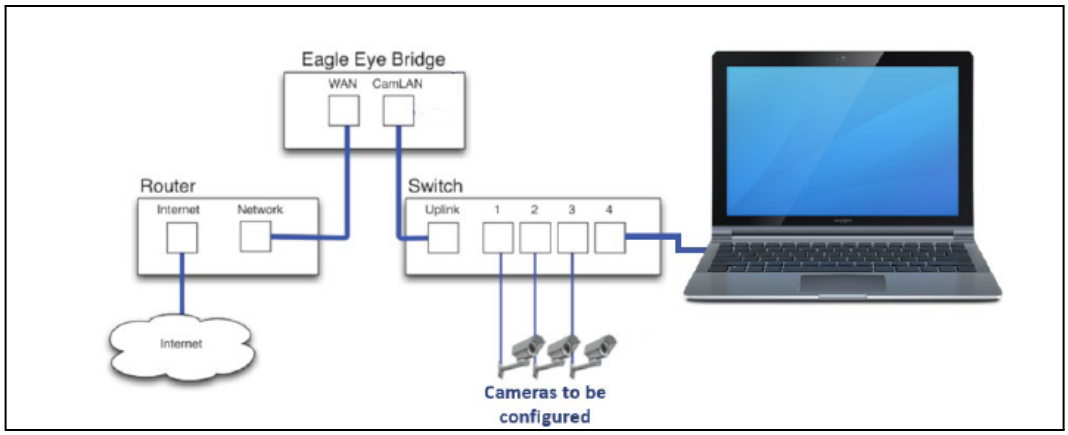


Stream 1: Encode Type H.264, Framerate 12fps
Stream 2 or 3: Encode Type MJPEG

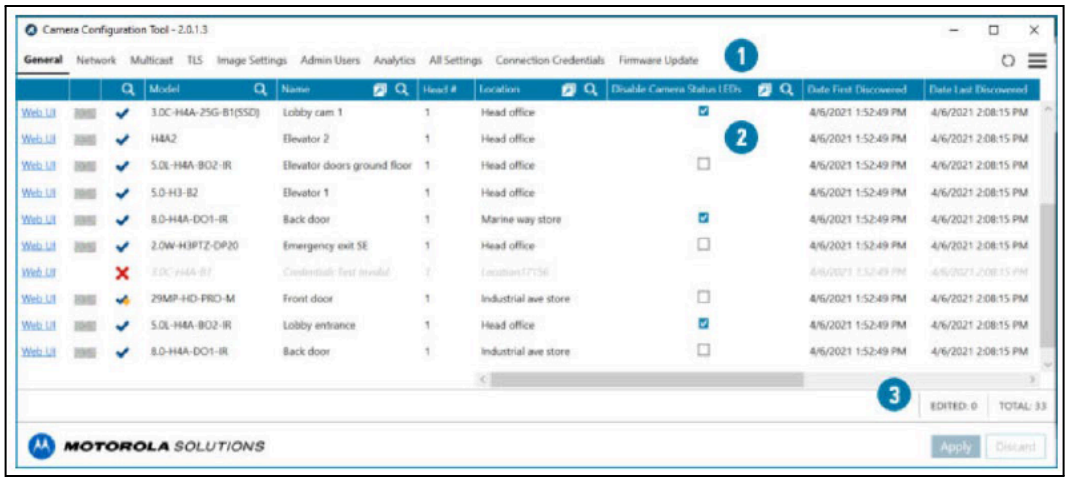
Note: Some MOVE cameras do not allow the second stream to be set to MJPEG. In that case, instead change stream 3 to MJPEG.
There are no special ONVIF settings that need to be changed.

Pelco Cameras

Download the Pelco Camera Configuration Tool from Pelco's website, and connect your laptop to the switch with the cameras. This should be the switch connected to the CamLAN port on your Eagle Eye Bridge/CMVR.

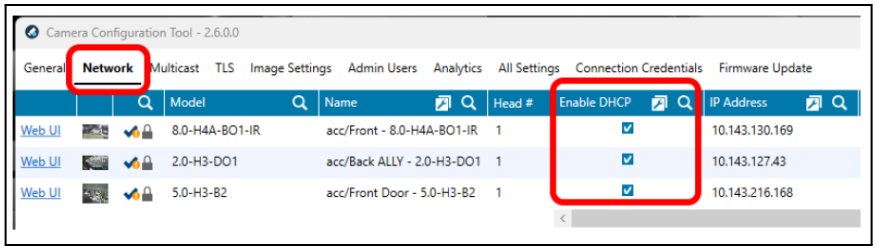


After you log in to all the cameras, the application window presents you with a list of all the cameras that were automatically detected in the system.

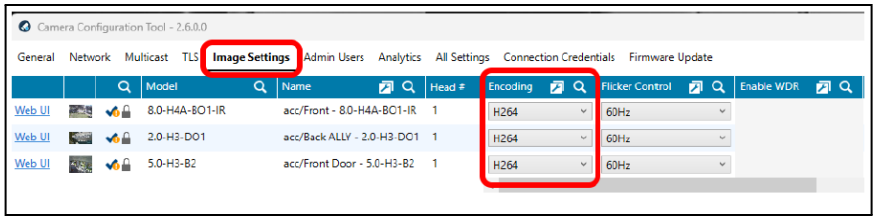


1. **Menu bar** — the camera settings tabs are displayed on the left, and the additional task menu is available on the right.
2. **Camera list** — the list of discovered cameras and their related settings.
3. **Implementation area** —this displays the total number of discovered cameras, and the number of cameras with pending setting changes. Changes are not implemented until you click **Apply**.

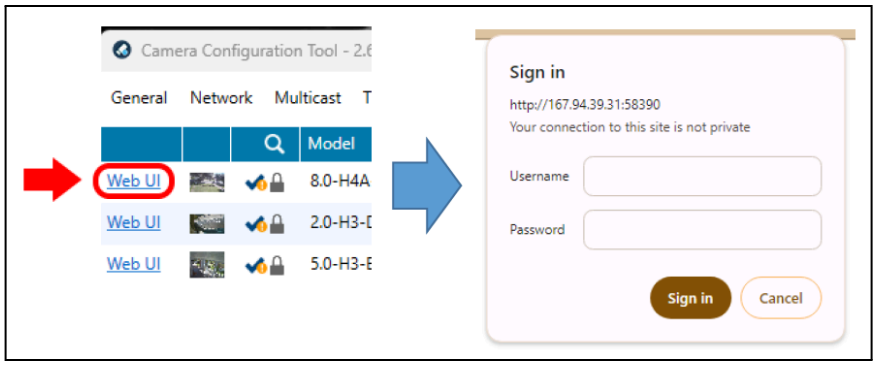
1. On the network tab, enable DHCP.



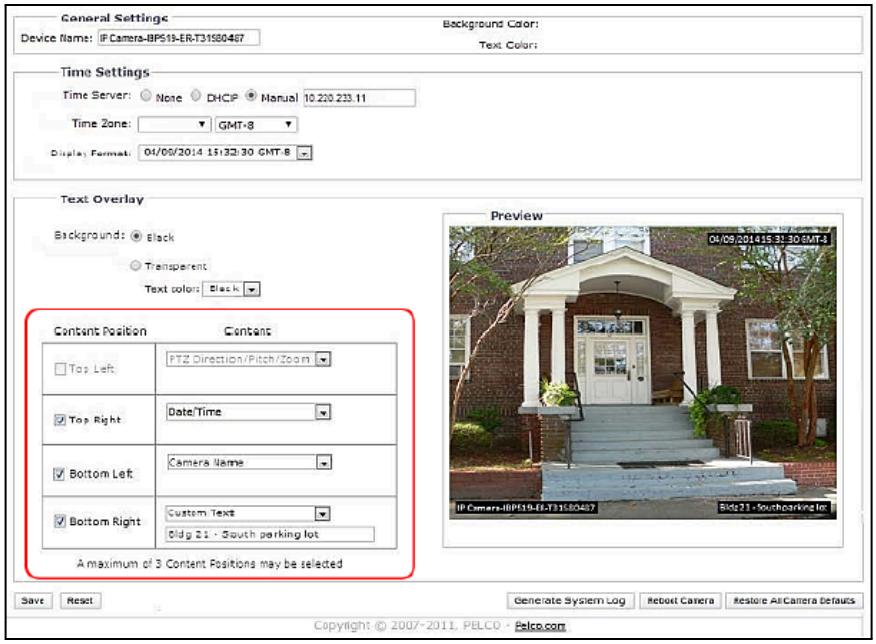
2. In Image Settings, choose H.264 Encoding.



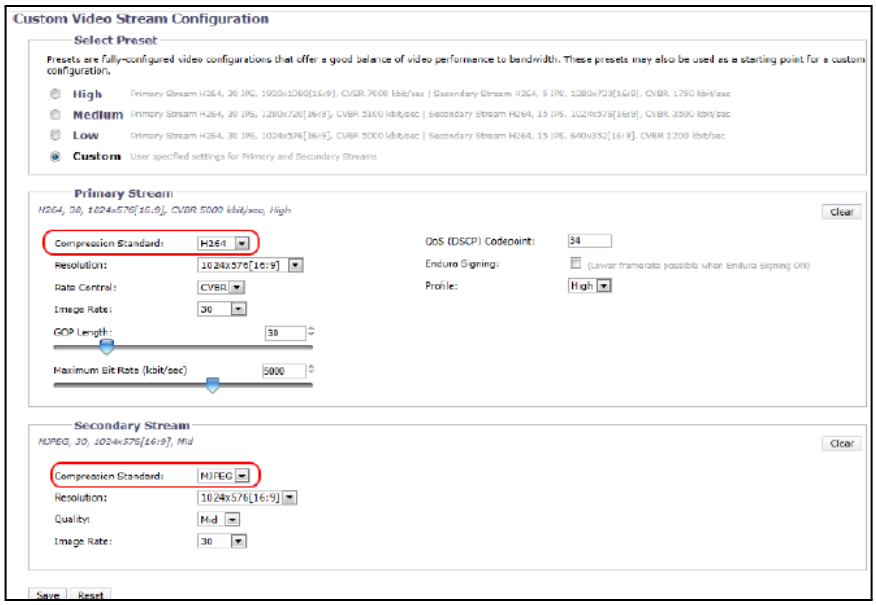
3. Enter camera webpage; default username/password are admin/admin.



4. Under Setup -> General, make sure the text overlay is disabled – OSD.



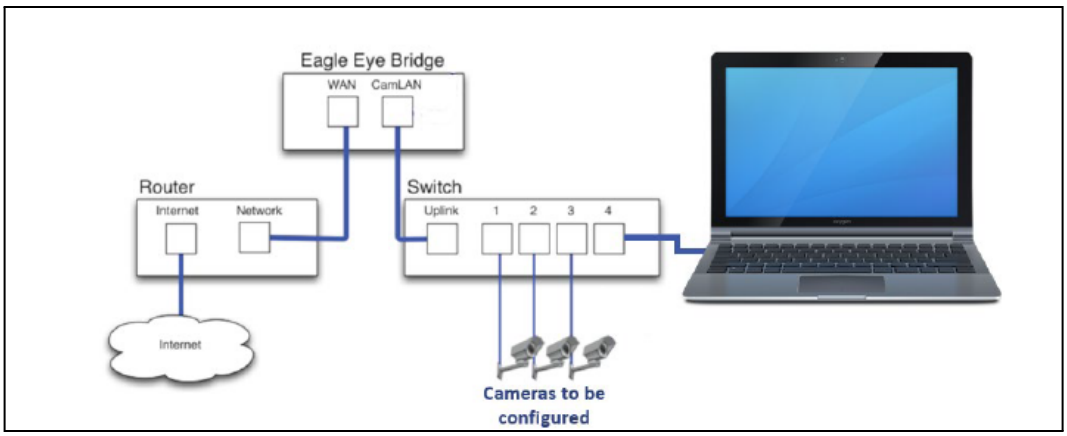
5. Under Video-> verify that the first stream is set to H.264, and the second stream is set to MJPEG, with IPv6 disabled.



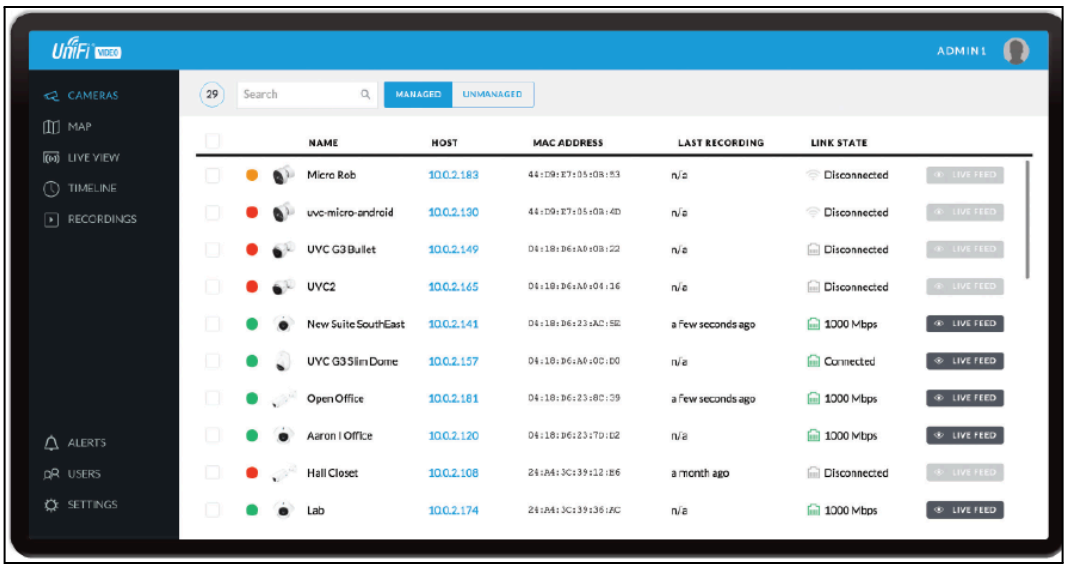
6. Reboot camera, navigate to Eagle Eye VMS, and add the camera to the Bridge/CMVR.

Ubiquiti Cameras

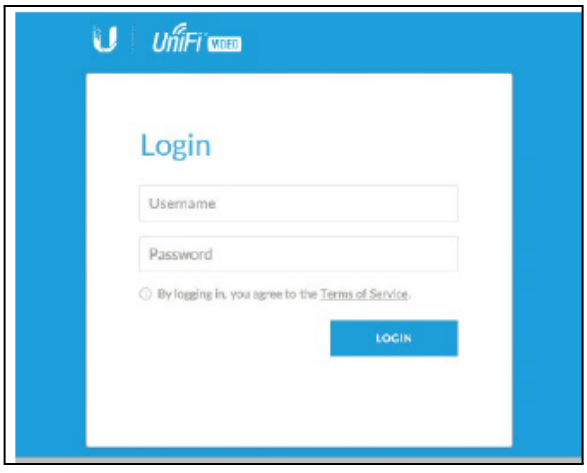
Download the UniFi Video Software from [Ubiquiti's website](), and connect your laptop to the switch with the cameras. This should be the switch connected to the CamLAN port on your Eagle Eye Bridge/CMVR.



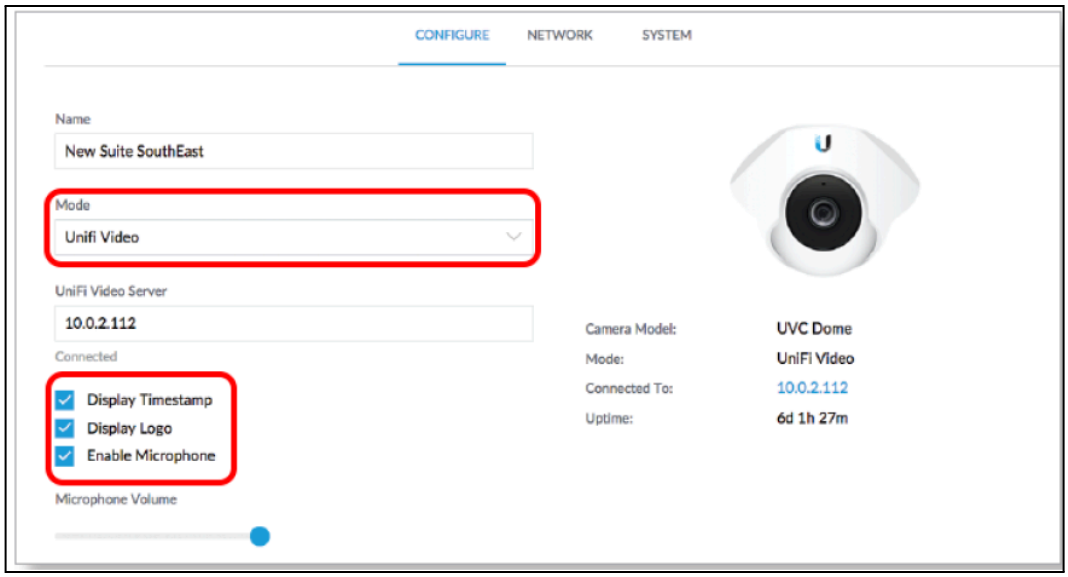
The UniFi Video auto-management feature should automatically detect and install your new camera(s).



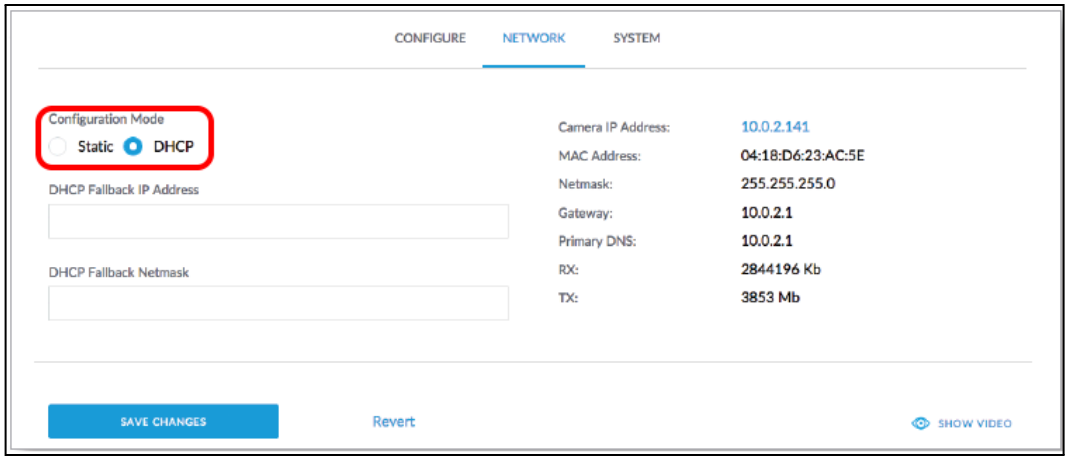
1. Remove the Ubiquiti camera from the NVR. It will automatically perform a factory reset.
2. Access the camera via web browser using the camera's IP Address.
3. The camera's login screen will appear. Enter your Username and Password (ubnt for both if this is the initial login to the camera). Then click Login.



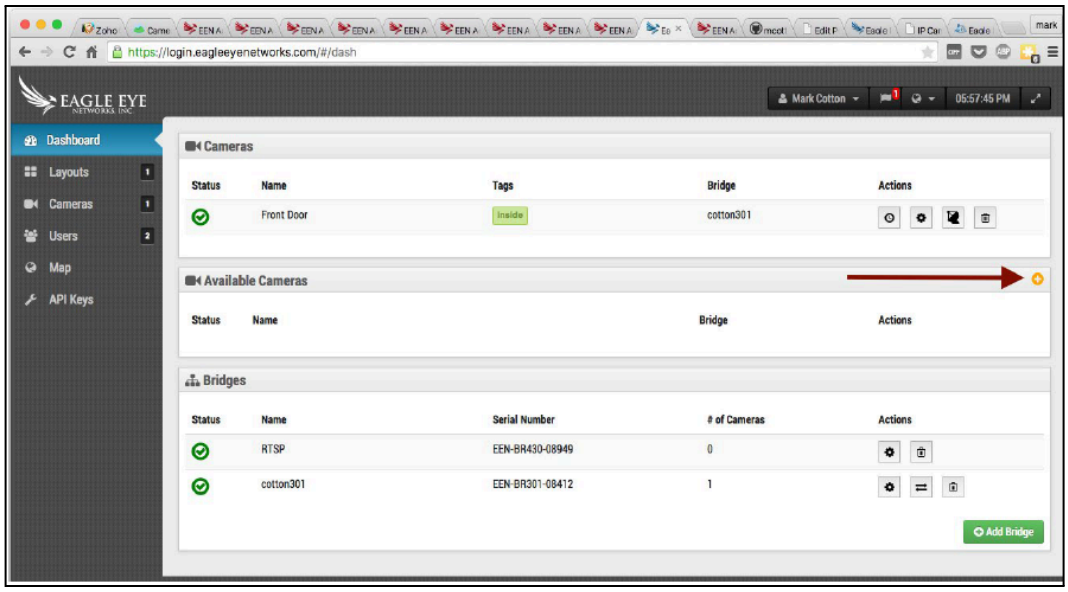
4. Change the mode to Standalone, and disable all OSD (On Screen Display) items.



5. On the network tab, enable DHCP.

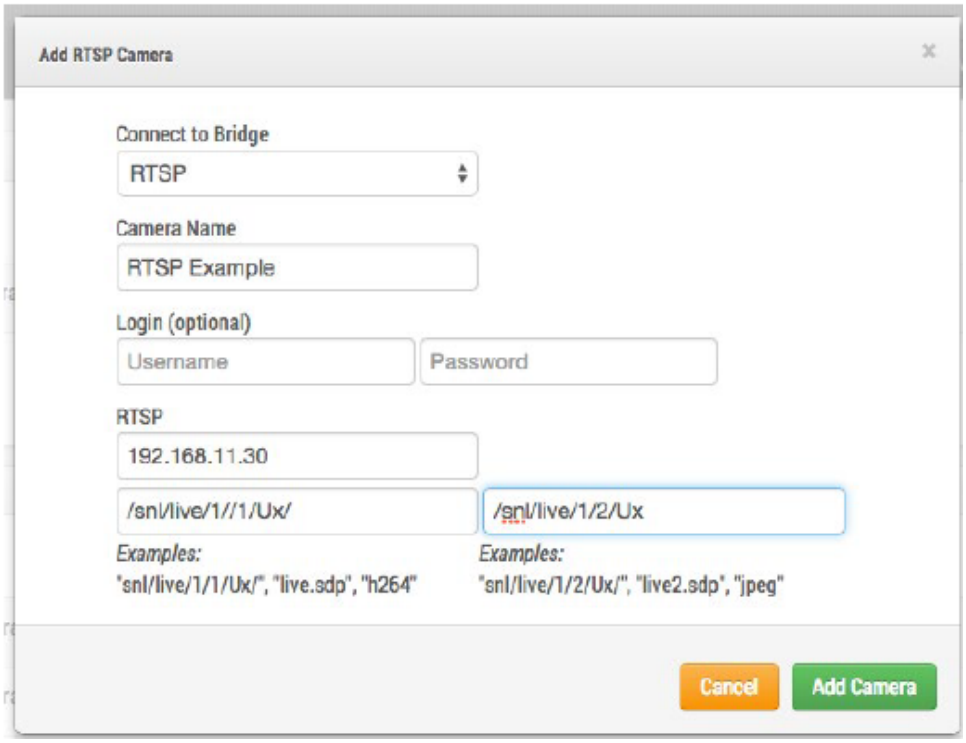


6. Reboot camera, navigate to Eagle Eye VMS, and add the camera to the Bridge/CMVR.



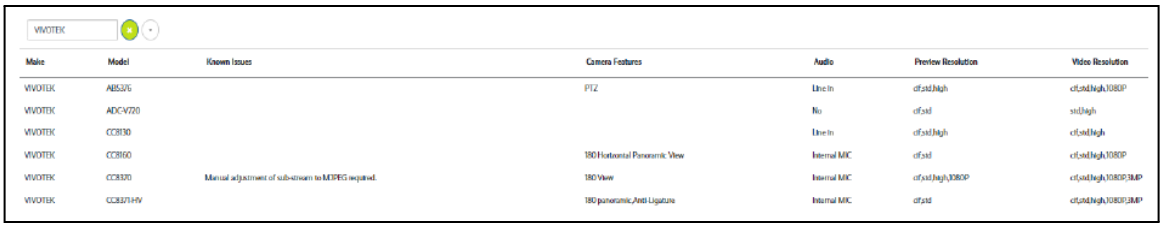
7. Ubiquiti will work only via RTSP stream. See Adding RTSP camera at EEN.com/support. Add the new camera in the Eagle Eye VMS and set the RTSP stream in EE to be rtsp://X.X.X.X/s2.

8. Username/password will be ubnt/ubnt or ui/ui.



Vivotek Cameras

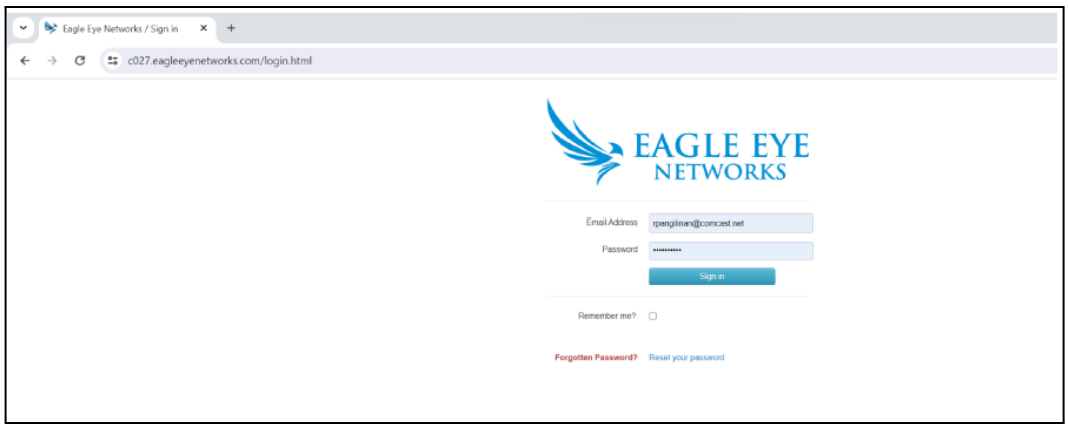
1. Verify that the IPC is approved and compatible with the Eagle Eye Networks Cloud VMS.
https://www.een.com/support/camera-compatibility-digital-ip/
a. Verify that the version of the IPC is compatible with the Eagle Eye Networks VMS. We recommend updating the IPC before installing it in the Eagle Eye system.
b. In the later steps below, we will need to create a User password. This is a critical step in activating the ONVIF or third-party protocol to work with our Eagle Eye VMS system.


VIVOTEK

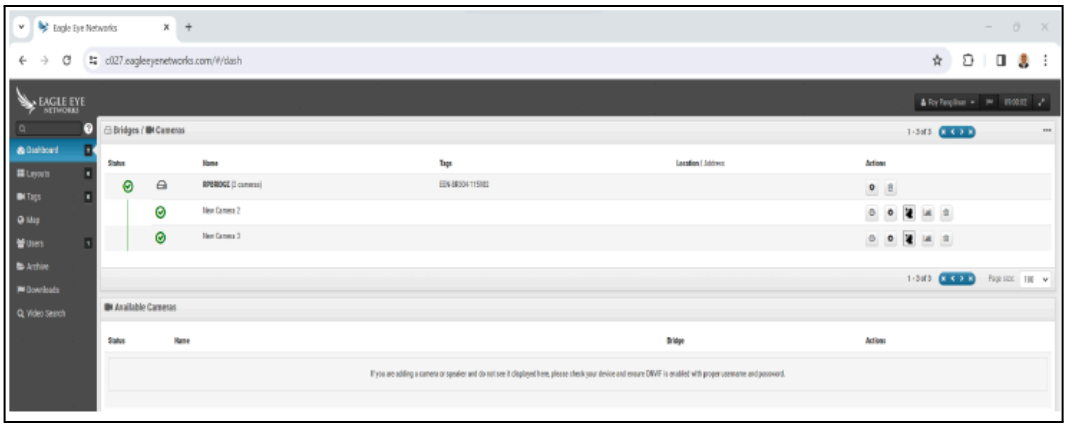
Make	Model	Known Issues	Camera Features	Audio	Preview Resolution	Video Resolution
VIVOTEK	AB5326		PTZ	Line In	cif,std,high	cif,std,high,1080P
VIVOTEK	ADCV720			No	cif,std	std,high
VIVOTEK	CC8130			Line In	cif,std,high	cif,std,high
VIVOTEK	CC8160		180 Horizontal Panoramic View	Internal MIC	cif,std	cif,std,high,1080P
VIVOTEK	CC8370	Manual adjustment of sub-stream to MJPEG required.	180 View	Internal MIC	cif,std,high,1080P	cif,std,high,1080P,3MP
VIVOTEK	CC8371-HV		180 panoramic,Anti Ligature	Internal MIC	cif,std	cif,std,high,1080P,3MP

2. Prepare your IPC and power the unit with a PoE switch. Below is an example of the Network and system architecture using an Eagle Eye Bridge.
Note: A Vivotek camera will be the example third-party IPC we will install on the Eagle Eye VMS.

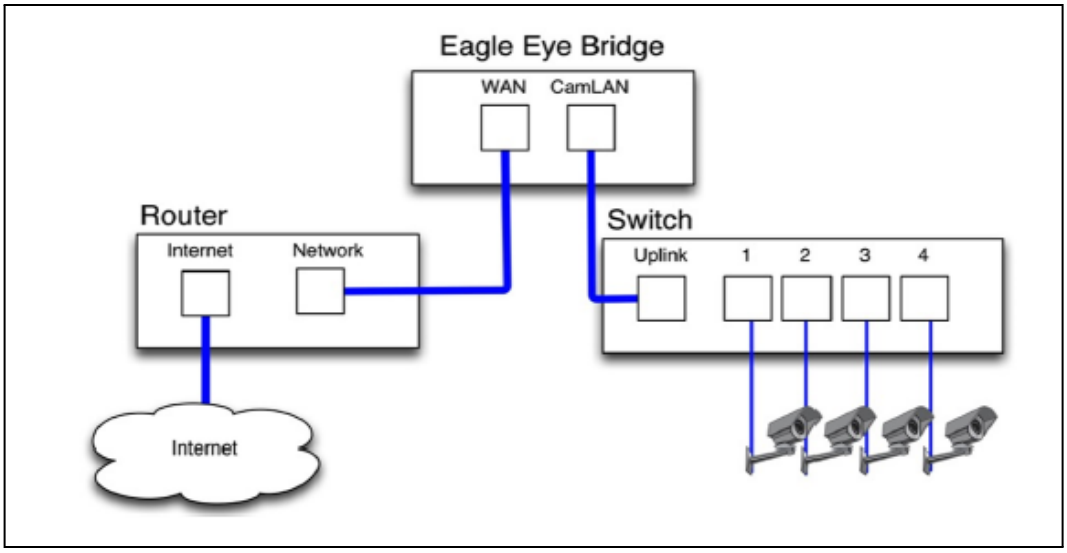
STEP 1: Log in to the Eagle Eye Cloud VMS webpage.



STEP 2: Click on the Dashboard option on the left-hand side of the on-screen display.



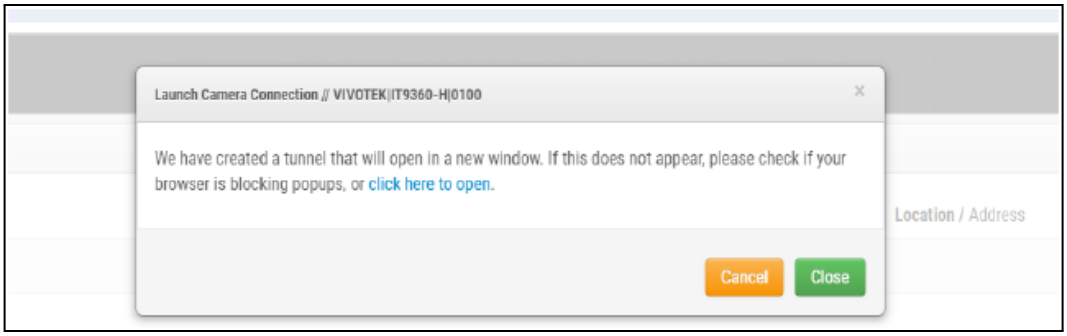
STEP 3: If you have not done so, plug the IPC into your network switch. The IPC must be part of the CamLAN network on your Eagle Eye Bridge/CMVR.



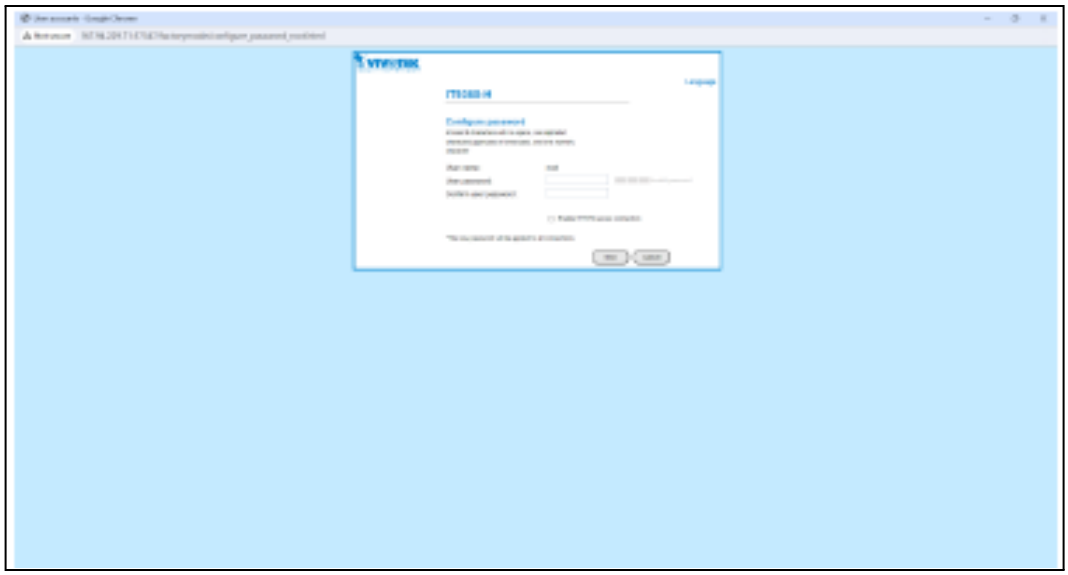
STEP 4: Verify that the Vivotek IPC is displaying in the Available Cameras section. You may need to wait 5–10 minutes or refresh the webpage for the camera to show up in the Available Cameras section.

Note: To activate the ONVIF or third-party protocol, you will need to follow a camera- or manufacturer-specific procedure to properly work with the Eagle Eye VMS. For instance, for Vivotek IP cameras, the default username is “root,” and you will need to set a User Password.

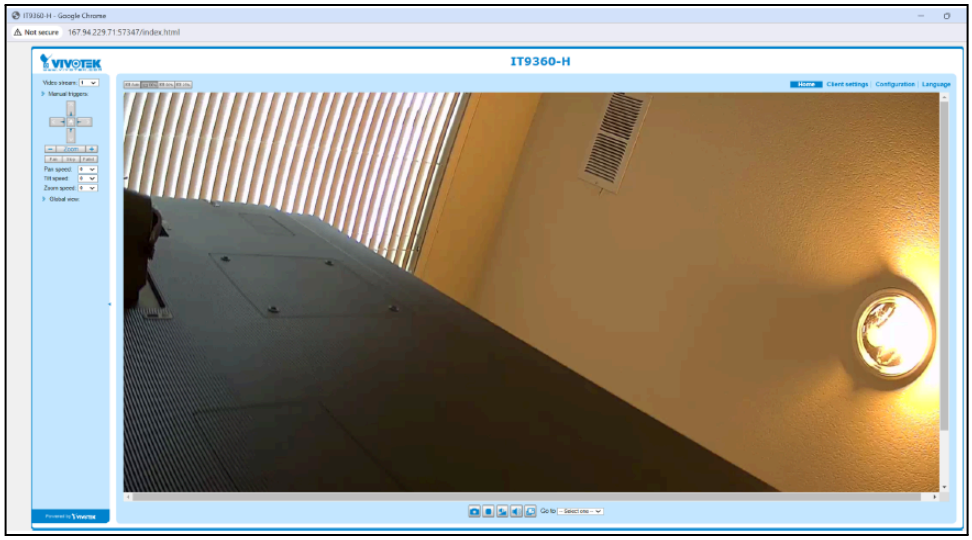
STEP 5: To properly set up the IPC, click on “Open to VPN to Camera” action button. When a pop-up window appears to launch the camera connection, select “Click here to open.”



STEP 6: Enter a new User password, confirm the password, and click on Next. Click on Accept and Save for the Security Agreement.

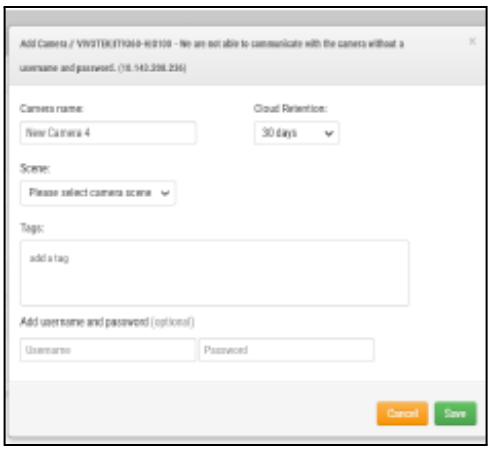


STEP 7: You will need to sign in again to verify the Username and Password. Verify that a LIVE view of the IP camera is displayed. Once you are confirmed that the view is live, you can click Close or exit the webpage and go back to your Eagle Eye Cloud VMS.



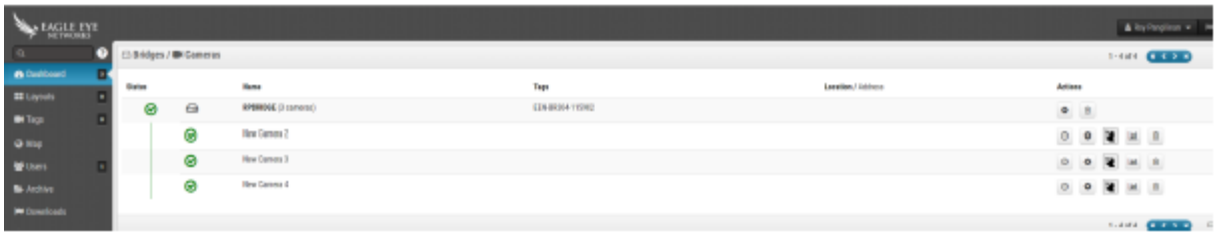
STEP 8: From the Eagle Eye Cloud VMS, you can click on the action button to add a camera to the account.

STEP 9: Once you click on the action button, a setup configuration dialog will appear. Input the Username/Password pair that you just created. Also, if necessary, change the Camera name, Cloud retention, scene, and Tag.

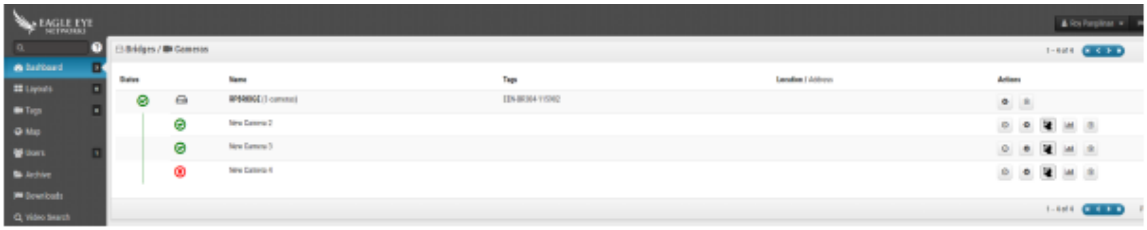


STEP 10: Verify that the status has a green check mark; it may take several (5–15) minutes to verify initiation from the Eagle Eye Networks cloud management services. You can click to refresh or reload the webpage if necessary.
Note: Below are a few examples of how status information is displayed:

Example of Online Camera



Example of Offline Camera



- Wait for 5-15 Minutes to initiate through our cloud services
- Verify that the IPC is online and is connected to the CAMLan Network
- Verify that you have the right login and password

STEP 11: Now, please verify that you have a live view on your Eagle Eye Cloud VMS web page by clicking on **Tags**, and verify all camera views are online.