VISIX VX-VT-56-DUAL-X

Reliable Day and Night Detection and Monitoring

Solutions Guide - v1.0.0

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COMPLIANCE

E467564

CAN ICES-3 (A) / NMB-3(A)

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions
   i. This device may not cause harmful interference.
   ii. This device must accept any interference received, including interference that may cause undesired operation.

   Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
2. This device complies with CAN ICES-3 (A)/NMB-3(A)
3. This device is UL and ULC E467574 (Safety) cerfied
4. This device complies with CE 2014/30/EU – EMC Direcve, 2015/863/EU RoHS3 as part of 2011/65/EU RoHS.
5. This device complies with UKCA Electromagnec Compability Regulaons 2016 and UKCA Restricon of the of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012
6. This device complies with WEEE- Do not discard this product along with other household waste, it must be collected and treated separately. See *Discard Old Appliance* section o this document for information on proper disposal.

Notice: This product is covered by one or more claims of the HEVC Patents listed at patentlist.accessadvance.com

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1 VISIX VT SERIES VX-VT-56-DUAL-X

Dealers and users often encounter fragmented surveillance systems, compromising security and efficiency due to insufficient coverage and analytics. The VX-VT-56-DUAL-X, 3xLOGIC's VISIX™ Dual Thermal/Visible Light Imager, integrates visible light and thermal imaging into one powerful product. It offers edge-based deep learning (EBDL) analytics, streamlined installation, and provides enhanced security and real-time monitoring, revolutionizing surveillance for cost-efficiency and effectiveness.

This solutions guide will provide installation and configuration best practices as per the user persona example detailed in this guide. Use these details and guidelines to inform your own installation and application of this camera.

Note: This guide assumes the reader is familiar with VISIX Gen III cameras and their browser-based interface, the 3xLOGIC VIGIL VMS (specifically VIGIL Server and VIGIL Client) and that the reader maintains a general understanding of network cameras and common image settings. See the Appendix section for links to other relevant documentation.

1.1 WHY THE VX-VT-56-DUAL-X?

- **Dual Image Capability**: Integrates a 5MP, 4mm visible light sensor and a 56 degree field of view (FoV), 320x240 resolution thermal imager in a single housing.
- **Edge Based Deep Learning (EBDL) Analytics**: Enables daytime object detection using visible light sensor, enhancing security surveillance.
- **Advanced Thermal Analytics:** Provides thermal advanced analytics for intrusion detection during nighttime operations.
- **Manual Analytics Selection**: Allows users to switch between daytime or nighttime analytics based on preferences and use cases.
- **Robust Specifications**: Includes 30m IR, Audio and Alarm I/O, True WDR, IP67 and IK10 ratings, and ONVIF Profile S compatibility for a powerful performance.

1.2 HOW THERMAL ANALYTICS WORK

The analytics engine utilized by 3xLOGIC's thermal solutions relies on the detection and tracking of changing groups of pixels. This changing/moving group of pixels then has a bounding box drawn around it to track where that object is going and when it crosses zones/lines of interest.

Based on the information provided to the camera in the calibration step (Height, Tilt, and VFOV), the camera will then estimate the area of the bounding box. This is measured in square meters. With this area information, it will then classify the object based on its perceived size. Object classification based on min/max area is configurable.

Object classification

Name	Min. area	Max. area	Min. Speed	Max. speed
Person	0.5 sqm	2 sqm	0 kph	20 kph
Vehicle	4 sqm	100 sqm	0 kph	200 kph
Clutter	0 sqm	0.4 sqm	0 kph	50 kph
Group Of People	2.1 sqm	3.9 sqm	0 kph	20 kph

Figure 1-1: Object Classification Table

Once there is accurate classification, you can then create filters to exclude object classes such as “Clutter” to reduce false detections.

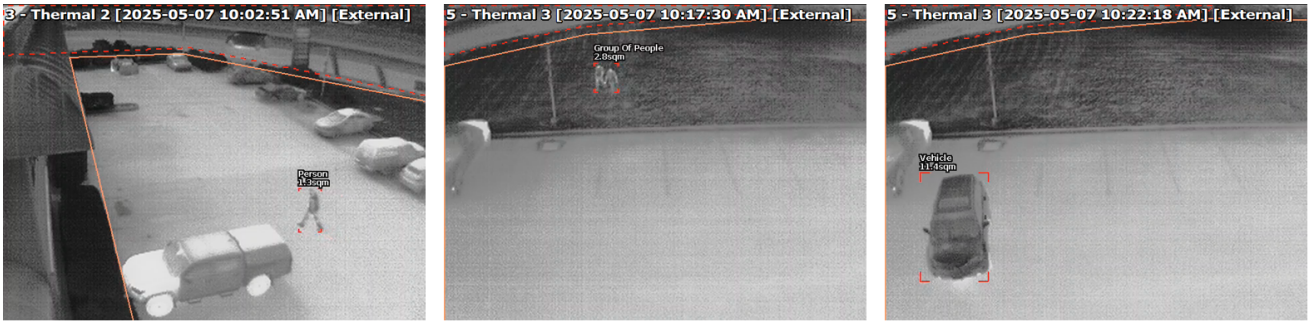


Figure 1-2: Object Detection - Examples

1.3 CAMERA TECHNICAL SUMMARY – VX-VT-56-DUAL-X

Hardware			
Image Sensor	SONY Starvis IMX335, 1/2.8" 5.14M CMOS	**Sensor Max Resolution**	2592x1944
Lens	4.0mm	**Frame Rate (per Stream)**	30fps
Aperture	F2.0	**Operating Temperature**	PoE: 30°C ~ 50°C (-22°F ~ 122°F) DC12V: 40°C ~ 50°C (-40°F ~ 122°F)
Lens Type / Iris Type	Fixed / Auto Exposure	**Operating Humidity**	10-90% RH (Non-Condensing)

Hardware

Angle of View	H:82.3°, V:58.8°	**Impact Protection**	IK09
MIN. Illumination	Color : 0.16Lux BW : 0Lux with IR	**IP Rating**	IP67
IR Distance	80ft (25m)	**Housing Color**	White
IR LEDs	2 x H2IR	**Dimensions (W x D x H)**	106mm(W) x 64mm(H) x 217mm(D) 4.17in(W) x 2.52in(H) x8.54in(D)
Shutter Speed	Auto / Manual (1/30 ~ 1/32000), Anti-Flicker, Slow Shutter (2X, 3X, 5X, 6X, 7.5X, 10X)	**Weight**	1.08 kg / 2.38lb
Day & Night	TDN (True Day & Night)	**Storage**	microSD/SDHC/SDXC. 1TB max. (VIGIL CLOUD Max 256GB)
Wide Dynamic Range (WDR)	WDR (2x), 120dB or above	**Power supply**	DC12V, PoE(IEEE 802.3af)
Certifications	FCC Part 15, Subpart B, Class A CAN ICES-3 (A)/NMB-3(A) UL and ULC Safety CE NDAA Compliant	**Power consumption**	DC12V 2A, Max 23.3W, PoE Max 11.5W
Ethernet	RJ45 (10/100Base-T)	**Alarm In / Out**	1/1
Audio In / Out	1 Line In, Supply voltage : DC3V (3mA), Input impedance : 3K Ohm / 1 Line Out, Max. Output Level : 1Vrms	**Video Out (for Installation)**	1 CVBS 1.0V p-p (75Ω), Camera select-able

Thermal Imager Specifications

Image Sensor	Uncooled Vanadium Oxide Micro-bolometer	**Sensor Max Resolution**	640 x 480 (w/Upscaling) 320 X 240 (w/o Upscaling) Pixel size : 12
Lens	4.0mm	**Frame Rate**	9fps
Aperture	F1.0	**Lens Type**	Fixed
Angle of View	H : 56°, V : 42°	**Spectral Response**	7.8~14 µm
NETD	65mK (Typical), Less than 100mK (max) @ 25°C	**Detectable Temperature Range**	-40°C to 330°C (-40°F to 626°F)
Video Streams	9fps@640x480 + 9fps@320x240 + 9fps@640x480 (MJPEG Only)	-	-

Software

Video Compression	H.264, H.265, MJPEG	**Event Trigger**	Motion Alarm, DI, Temperature Alarm (Above, Below, Slope Rate), VCA AI
Video BitRate	100Kbps ~ 25Mbps, Multi-rate for Preview and Recording	**Security**	HTTPS(SSL) IP filtering 802.1x, Digest Authentication
Video Streams	30fps@2592x1944 + 30fps@720p + 30fps@1080p(MJPEG)	**Protocols**	TCP/IP, UDP, AutoIP, RTP(UDP/TCP), RTSP, NTP, HTTP, HTTPS, SSL, DNS, DDNS, DHCP, FTP, SMTP, ICMP, SNMPv1/v2/v3(MIB-2), ONVIF
Audio Compression	G.711	**Sys. Compatibility**	CGI API, ONVIF

Software			
Base Analytics	Edge Based Deep Learning (Visible Light Sensor Only)	**H.264 /H.265 Profile**	MP, HP / MP
Event Pre / Post Buffer	Pre : 1 ~ 5 sec Post : 1 ~ 240 sec	**Special Features**	Smart LBR, ROI
Privacy Mask	16 Programmable Zone	**DNR**	3D-DNR
Image Processing	Exposure, White balance, Sharpness	**AGC**	Auto

2 USER PERSONA - TECH INSTALL AND SETUP

As a technician, I have arrived on site to install a VX-VT-56-DUAL-X camera for the purpose of perimeter protection with video verification.

The end customer requires thermal analytics events to trigger a DO (digital output) connected to an alarm panel for notification to a NOC/SOC

The thermal analytics event is required to only trigger on the presence of a *Person, Group of People*, or *Vehicle* classifications within a specified zone of interest.

Smaller objects that may generate a thermal signature such as small animals are to be ignored as to not generate false notifications to a NOC/SOC

Please note, diligently following the steps outlined in this guide is critical for accurate detection, reduction of false notifications to NOC/SOC's, and most importantly customer satisfaction.

Post install adjustments maybe required for unique or challenging situations. However, this guide will explain settings and how to optimize configuration based on reviewing recorded video.

2.1 REQUIRED SETUP STEPS

1. Install camera and make note of the camera's installation height and the tilt/angle in relation to the horizon.
2. Basic camera onboarding (identify camera, create new password, assign a static IP address to the camera, save to VIGIL (enables recording in VIGIL).
   ***IMPORTANT* – Leaving a camera configured with a DHCP IP address will eventually result in the camera receiving a different IP address from the DHCP Server and subsequent loss of video or alarms within the VMS will occur. If DHCP is required, ensure a DHCP reservation has been created for the cameras specific MAC address on the DHCP Server. 3xLOGIC highly recommends a static ip for this application.**
3. Update the camera's FW to the latest (A15.3.3_20250530.img) and the latest analytics plug-in (VCAEdge-AI v1.1.147.eng).
4. Setup analytics plugin to use Object Tracker on the thermal sensor.
5. Calibration of tracking engine.
   a. Enable calibration and enter values noted in Step 1.
   b. Enable Burnt-in Annotation.
   c. Tips for solo calibration / refine and validate calibration.
   d. Object Classification adjustments (if required).
6. Create necessary VCA rules:
   a. VCA Presence Zone and enable Object Filtering.
   b. Create a Non-detect Zone (optional)
7. Program Digital Output (DO) control.
   i. Option 1 – Camera's on-board DO wired directly to alarm panel.
   ii. Option 2 – External DO wired directly to alarm panel (ex. ADAM6060)

8. Link alarms triggered from the thermal sensor to also trigger alarm recording for the camera's visible light sensor in VIGIL.

2.2 STEP 1 - PHYSICAL INSTALL - BEST PRACTICES

Refer to the camera's QSG for installation specifics. See below for a summary of steps:

1. Mount the VX-JB-BJC07 junction box.
2. Mount the VX-VT-56-DUAL-X camera to the junction box and run cabling as required.
   Please note, you must sufficiently loosen the set screw on the elbow joint before adjusting the FOV of the camera. Applying pressure to forcefully adjust the FOV whilst only partially loosened will result in stripping the notched teeth that hold the camera in place.

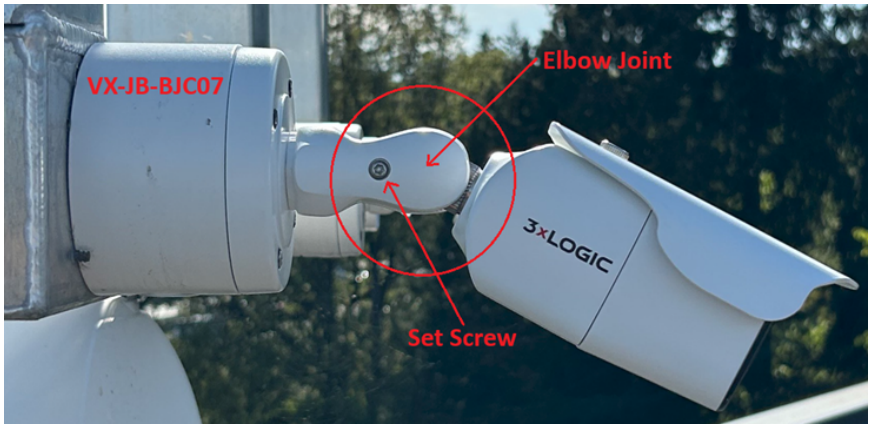


Figure 2-1: Set Screw Location

3. Make note of the approximate installation height and tilt angle in relation to the horizon.
   Please note, these measurements do not need to be exact but try to be as accurate as possible as it will serve as a great starting point for the calibration process.

2.2.1 Low Height Example

Figure 2-2: Low Height Install Example

- **Height:** ~3.5m (~11.5ft)
- **Tilt Angle**: ~25°

2.2.2 High Height Example

Figure 2-3: High Height Install Example

- **Height:** ~11m (~36.1ft)
- **Tilt Angle**: ~35°

After completing your installation and making note of *Height* and *Tilt* measurements, please proceed to Step 2 to on-board the camera with VIGIL Server which will enable recording.

2.3 STEP 2: ADD SENSORS TO VIGIL / ENABLE RECORDING

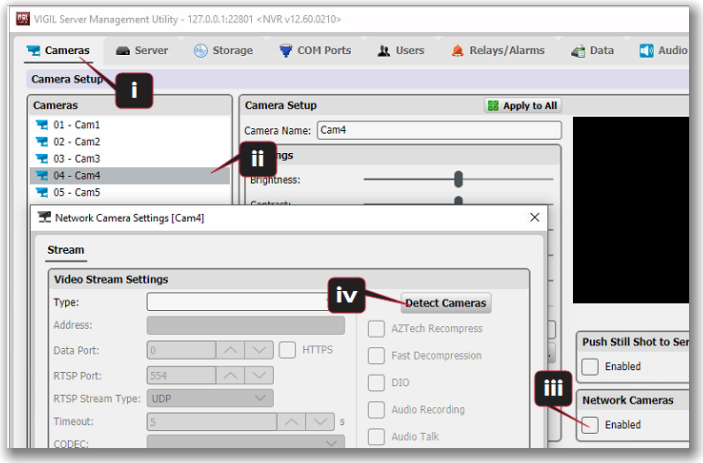
STEP A: RUN DETECTION UTILITY / IDENTIFY CAMERAS

i. On your VIGIL Server system, open the **VIGIL Server Management Utility** (VSMU) and navigate to the **Cameras** tab (open by default).

ii. Select the desired camera channel from the treeview.

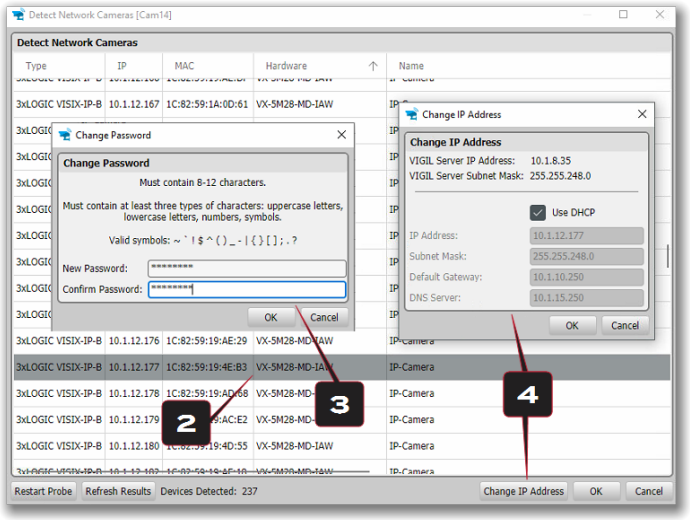
iii. Enable **Network Camera**. The *Network Camera Settings* form will deploy.

iv. Click the **Detect Cameras** button. VIGIL's embedded camera detection utility's *Detect Network Cameras* window will now



deploy and populate with a list of detected cameras on the network.

STEP B: SELECT CAMERA



Select the desired camera from the list of devices.

STEP C: CHANGE PASSWORD

To follow best security practices, you must first secure your camera by changing default credentials. The default username / password **must** be changed. Video will not stream from the camera until the default admin password is changed.

After selecting your new camera (double-clicking) from the list of devices, enter in the default username and password of **admin / admin** then click **OK**.

Once logged in, the *Change Default Password* prompt will deploy. Enter and confirm a unique password, then click **OK** to complete the change.

A pop-up will confirm your success.

> **Note:** The camera credentials will be set to defaults when a 'factory reset' is performed on the camera.

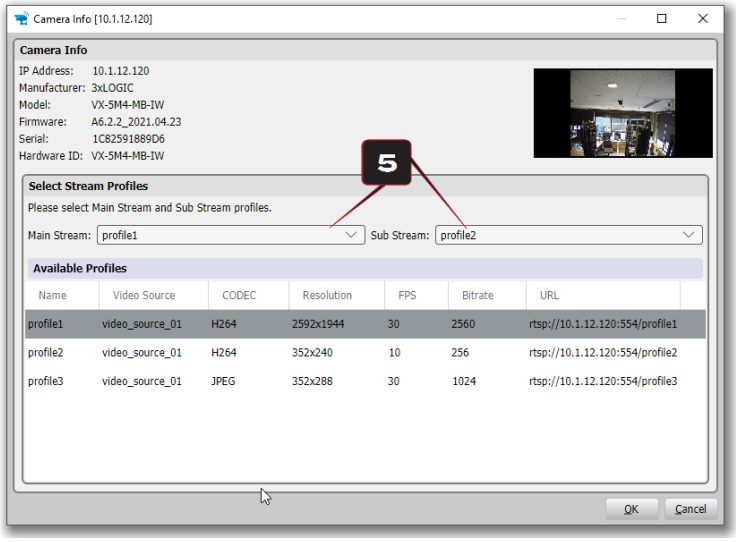
STEP D: CHANGING CAMERA IP INFO (STATIC IP RECOMMENDED FOR VX-VT-DUAL-X)

> **Warning:** Leaving a camera configured with a DHCP IP address will eventually result in the camera receiving a different IP address from the DHCP Server and subsequent loss of video or alarms within the VMS can occur. If DHCP is required, ensure a DHCP reservation has been created for the cameras specific MAC address on the DHCP Server. If using DHCP, skip to Step E. 3xLOGIC highly recommends using a static IP for this application of the VX-VT-56-DUAL-X.

To change the camera's IP to static, click **Change IP Address** with the camera selected in the *Detect Network Cameras* list. The *Change IP Address* window will deploy. Deselect the **Use DHCP** box and edit the camera's IP info. Enter the camera's credentials you configured in the previous step and click **OK** after making changes to save the new IP information.

> **Note:** Default TCP/IP information (set after 90 seconds if no DHCP is detected):
> - IP: 192.168.1.80
> - Subnet Mask: 255.255.255.0
> - Gateway: 192.168.1.1
> - DNS : 168.126.63.1

After making and saving any IP changes, confirm the camera is still selected in the devices list then click **OK**. The utilities' *Camera Info / Stream Selection* window will deploy.



STEP E: ASSIGN STREAM PROFILES /

The final step before adding the camera to VIGIL is to assign stream profiles to the camera's Main and Sub streams in VIGIL. Camera info is also visible top left for your review.

profile1 contains settings ideal for high-quality Mainstream video. ***profile2*** contains settings ideal for Substream quality video (reduced quality, increased performance). These will be respectively assigned to Mainstream and Substream automatically by the utility but can be changed here if necessary. Settings for each available profile are visible in the *Available Profiles* list.

For the VX-VT-56-DUAL-X's dual lenses (visible light and thermal imager), see the below table for lens / stream labeling. The traditional lens and the thermal imager can each be added to a separate VIGIL channel (repeat all steps in this section for each lens; when configuring the second lens, the same camera must be selected during identification in Step B).

Sensor	Mainstream	Substream	3rd Stream
Traditional (Visible Light)	profile1_1	profile1_2	profile1_3
Thermal	profile2_1	profile2_2	profile2_3

STEP F: SAVE TO VIGIL

Click **OK** on the camera info window to save settings. The camera's settings will populate VIGIL's *Network Camera Settings* form. Click **OK** to save the camera to VIGIL. Repeat the entire process (Steps A-F) on a new camera channel in VIGIL to add the camera's other sensor.

2.4 STEP 3 – CONFIRM FIRMWARE AND PLUGIN VERSION

The next step after physical installation of the camera and on-boarding the cameras with VIGIL is to confirm camera firmware and plugins are the required versions. Login to the camera's browser UI and refer to the information below for details:

1. Confirm Camera firmware version is **A15.3.3_2025.05.30** or newer. Download here or, if necessary, obtain the required firmware file from your 3xLOGIC support rep and update the camera's firmware..

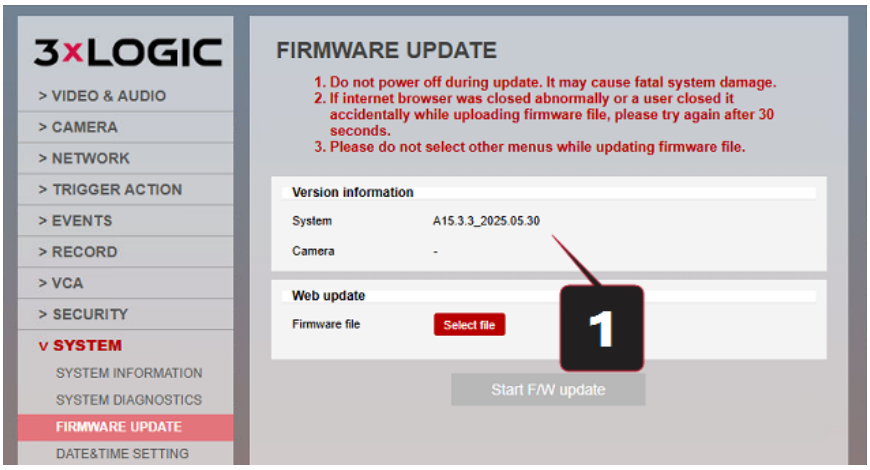


Figure 2-4: Setup > System > Firmware Update Page

2. Confirm VCAedge-AI Plugin is version **1.1.147** or newer. Download here or, if necessary, obtain the required plugin file from your 3xLOGIC support rep and update the plug-in.

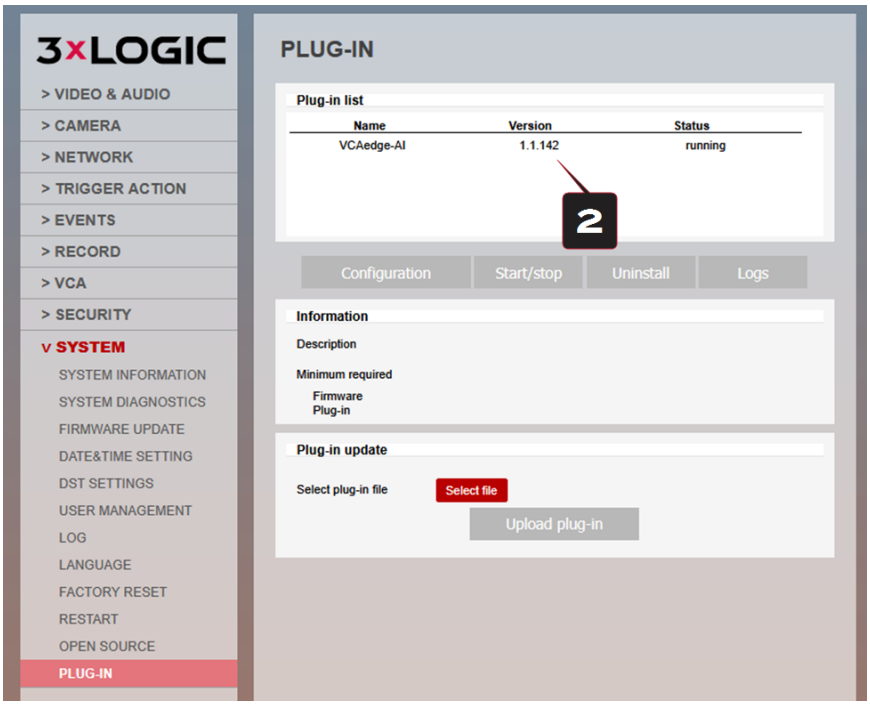


Figure 2-5: Setup > System > Plugin Update Page

2.5 STEP 4 – ASSIGN VIDEO SOURCE TO TRACKER ENGINE

After on-boarding both of the camera's sensors to VIGIL, the camera's thermal sensor must be assigned as the object tracking engine's video source.

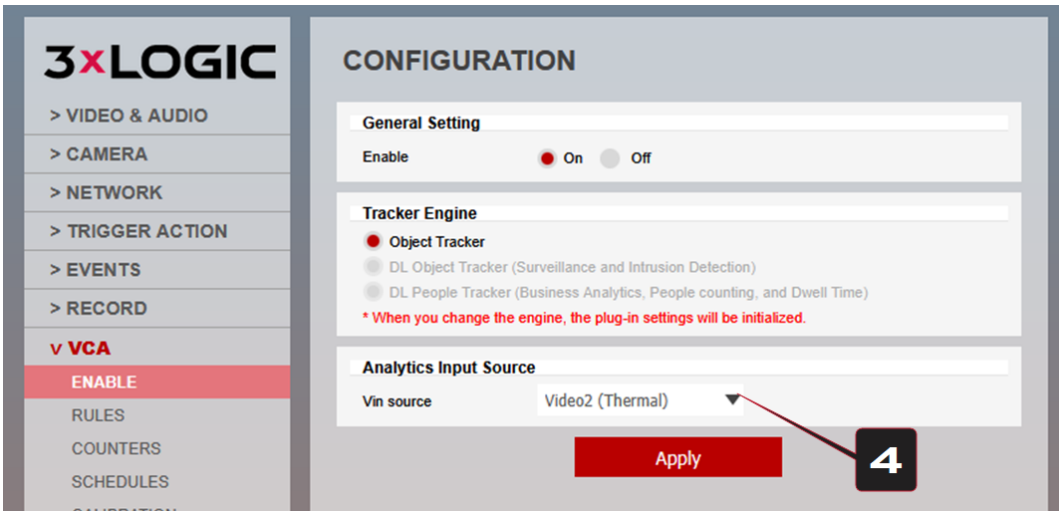


Figure 2-6: Assign Video Source to Tracker Engine

1. Login to the camera's browser UI
2. Navigate to **VCA** → **Enable**
3. Select **Object Tracker**
4. For *Vin Source*, select **Video2 (Thermal)**
5. Click **Apply**

2.6 STEP 5A – CALIBRATION

With the tracking engine's video source now configured, the engine must now be calibrated to ensure successful tracking / detection. To enable and perform calibration:

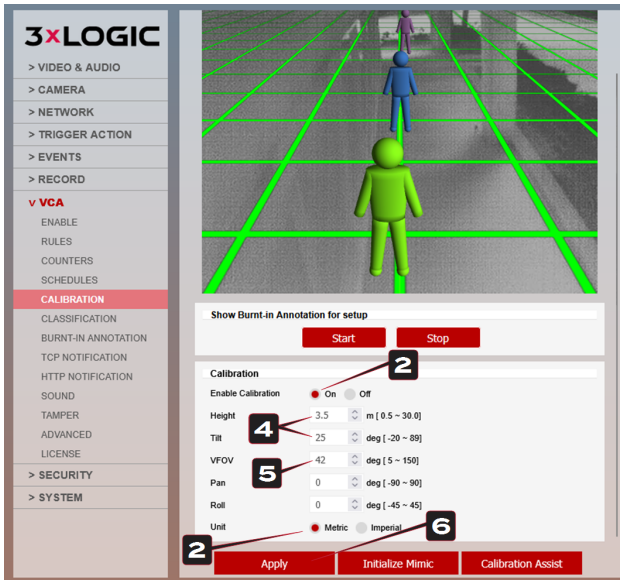


Figure 2-7: Calibration Configuration

1. Navigate to **VCA** → **Calibration**.
2. Toggle *Enable Calibration* to **On**.
3. Set *Unit* to your preference of **Metric** or **Imperial**.

4. Enter the **Height** and **Tilt** angle noted during the physical installation process.
5. Set the *VFOV* to **42**. This value will never change as it is defined by the image sensor and lens combination.
6. **Click Apply.**

> **Note:** A large change in Height or Tilt may result in the Mimic's being positioned off screen. Click "Initialize Mimic" to reposition them. Placement of the mimic is not required for calibration but is there to help you gauge the height of a person at various positions in the scene (i.e closest and furthest distances).

7. If this is a solo install, or you are adjusting settings post install and remote to the location, skip this step and continue forward with this guide. Be sure to reference the section with tips to accomplish solo calibration. If there are multiple technicians on-site for install, have your colleague on the phone and have them walk the FOV so you can place the mimics next to them as they traverse the scene. Ensure you cover the closest and furthest distances in the scene. Once you have placed your mimics, click **Apply** to finish calibration. Proceed through the remainder of this guide.

2.7 STEP 5B – ENABLING BURNT IN ANNOTATION

Enabling *Burnt-in Annotation (BIA)* allows analytics metadata to be overlayed onto the recorded video and is critical for adjusting calibration during a solo installation, making changes remotely post installation, or simply auditing for accuracy.

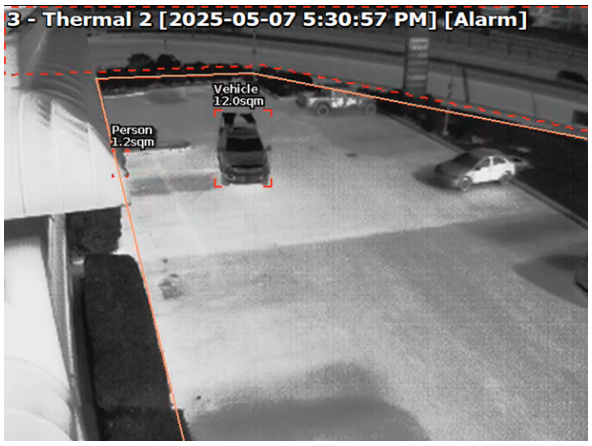


Figure 2-8: Burnt-In Annotation - Analytics Data Overlay

To enable BIA:

1. Login to the camera's browser UI and navigate to **VCA → Burnt-In Annotation**.
2. Change *Activation* to **On**.
3. Change *Display on* to **Main Stream**.

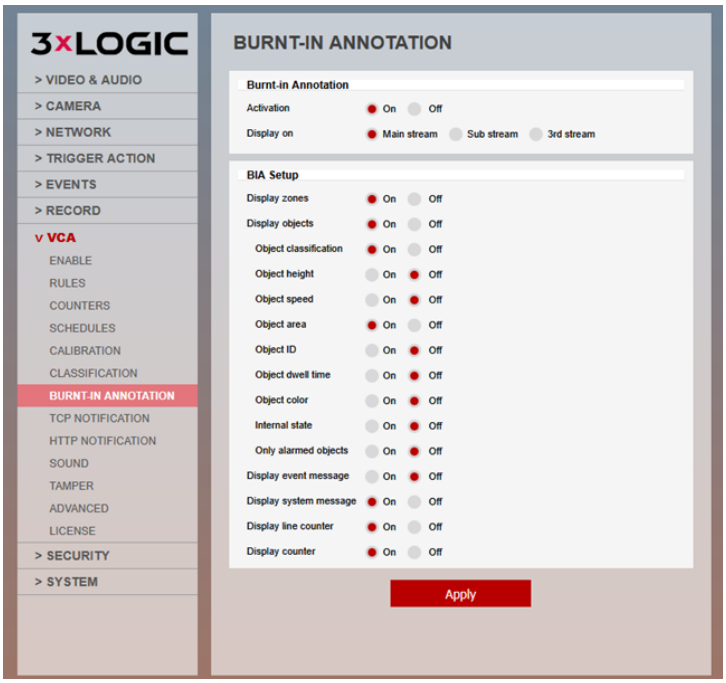


Figure 2-9: Burnt-in Annotation Settings

4. Ensure the following are turned on: **Display zones**, **Display objects**, **Object classification**, and **Object area**.

2.8 STEP 5C – CALIBRATION CONTINUED AND TIPS FOR SOLO CALIBRATION

If you are performing this installation solo and have just completed the initial calibration and BIA setup steps:

1. You can now walk the FOV for one or multiple thermal cameras yourself.
   - Ensure you cover the closest and furthest distances in the scene when placing mimics. The video with the metadata will be recorded for you to review when you get back to the VIGIL Server VMS.

Figure 2-10: Walking FoV

- When reviewing the footage to check that the calibration resulted in accurate classifications, the most important factor is that a person in the scene is not classified as *Clutter*. If a person is sometimes classified as "Group of people", this is OK as we are configuring the rule to alert on the *Person*, *Group of people*, and *Vehicle* classifications.
- If you were not successfully classified as a person during your walk through, revisit the values you had previously entered and try to get the *Height* and *Tilt* values as close as possible to the real world installation.
- If classification is still unsuccessful, "Step 5d - Object Classification Adjustments" belowfor information on adjusting object classification values.

2. Use the above tips and the overlaid data to aid you in placing the mimics correctly. Once placed, click **Apply** to finish calibration.

STEP 5D – OBJECT CLASSIFICATION ADJUSTMENTS

If best efforts have been made to provide accurate calibration values but you are still receiving undesirable results (the engine is misclassifying objects), it is possible to adjust the area ranges defining each classification category.

The default values for each classification are:

Class	Value (Square Meter)
Clutter	0 - 0.4 sqm
Person	0.5 - 2.0 sqm
Group of People	2.1 - 3.9 sqm
Vehicle	4 – 100 sqm

If small objects are frequently being classified as a "person", and a person is frequently being classified as "group of people", consider shifting the range of the corresponding min/max areas to higher values.

Note: Object classification values must be contiguous: When objects are classified, they must fit into one of four defined classes meaning no gaps in the values that define the classes can exist. If there's an empty space where an object's size does not match any of the four classes, it gets labeled as "unclassified." Unclassified is not an option for the object filter under the analytics rules and thus may result in false alarms.

See the table below for an example of what shifted classification values may look like:

Class	Value (Square Meter)
Clutter	0 – 0.8 sqm
Person	0.9 – 2.5 sqm
Group of People	2.6 – 4.5 sqm
Vehicle	4.6 – 100 sqm

Finding accurate values does not involve guesswork. Simply review footage with the Burnt-in Annotation showing the area of various objects and adjust values accordingly.

2.9 STEP 6A – CREATE A VCA ZONE W/ OBJECT FILTERING

After calibration, the camera's VCA object tracking zone must be created.

1. In the camera's web UI, navigate to *Setup>VCA>Rules*.
2. From the Rules page, click the **Add** button and select **VCA-Presence Polygon** as the rule type. The Presence Polygon Rule triggers an event when an object is first detected in a selected zone and is suitable for this application. The rule configuration form will deploy.

Figure 2-11: Presence Polygon

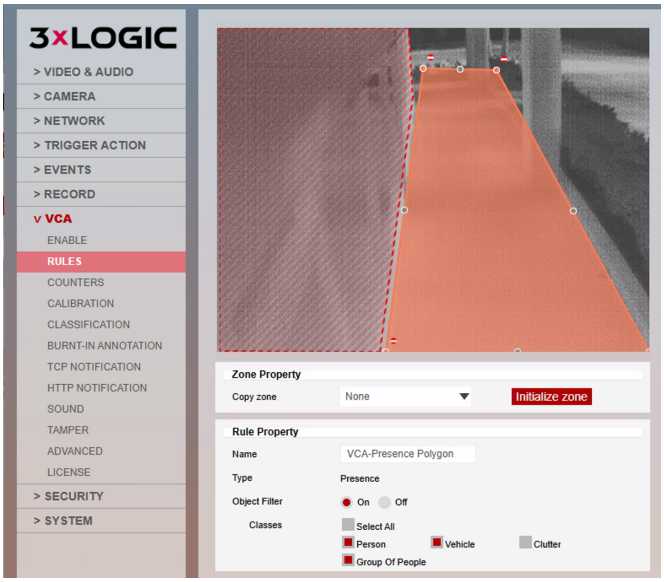


Figure 2-12: VCA Presence Polygon

When opened, the Presence Polygon Rule will create a zone and overlay it on the live view. The zone can be reshaped accordingly via click-and-dragging nodes. Selecting a grey node will split the segment and create a more complex shape. In order to remove a segment, select the minus sign next to a red node.

3. Reshape the zone as needed using the instructions above.
4. Confirm *Object Filter* is set to **On**. This will ensure only objects of the selected type will trigger an event when detected in the zone.
5. Under *Classes*, confirm *Person*, *Vehicle* and *Group of People* are enabled. ***Clutter*** must be **disabled**.
6. **Name** the zone, if required.
7. Click **Save** to add the rule to the camera.

STEP 6B – CREATE NON-DETECT ZONE (OPTIONAL)

After you have created the presence zone that will be triggering alarms, consider if there are other areas where no detection should occur.

Two common scenarios for this are:

i. Exterior windows (as they reflect IR and thermal imaging).
ii. Roads / highways that may be outside the property.

To prevent issues arising from detection in these problem areas, create a non-detect zone. Objects within this zone will not be detected / tracked. To create a non-detect zone:

1. In the camera's browser UI, navigate to *Setup>VCA> Rules*.
2. Click **Add**.
3. Select **Non-Detect Zone** as the rule type.
4. Create a polygon in the same manner as the presence zone, but around the area where no detection is desired.

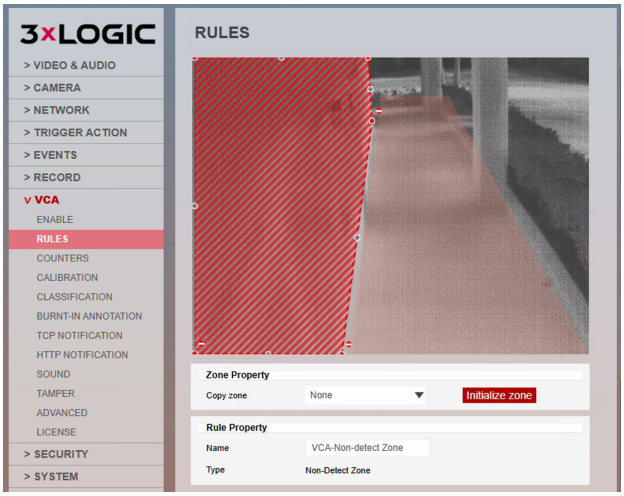


Figure 2-13: Creating a Non-Detect Zone

See below-left for an example of a person standing next to an exterior window. The dotted line denotes the "non-detect zone" and you can see that there is no bounding box generated on their reflection. Alternatively, in the image below-right, the highway is in the non-detect zone whilst the parking lot contains the presence zone.

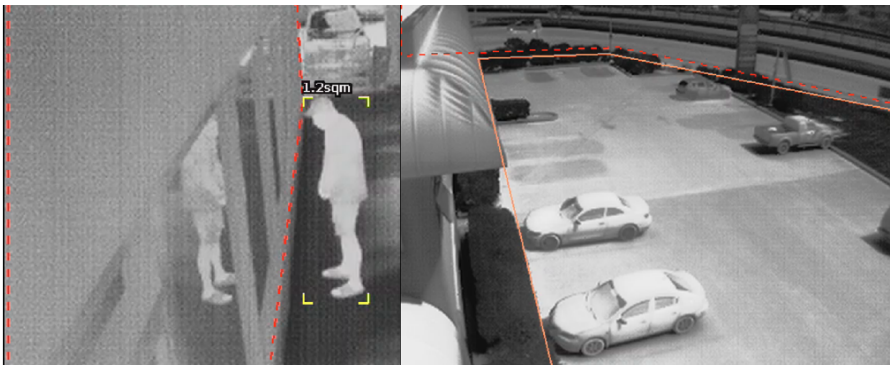


Figure 2-14: Non-Detect Zones - Examples: Window (Left) and Roadway(Right)

STEP 7 - PROGRAM DO CONTROLS

VCA alarms from the thermal camera can be configured to trip a digital output in VIGIL. This digital output can be the one configured on-board the camera, or from an external DIO source (ADAM6060).

To configure this setup, see the steps below:

ON-BOARD THERMAL CAMERA VCA RULES WITH VIGIL SERVER

In VSMU:

1. Select thermal sensor camera channel then navigate to *Camera Setup* > *Network Camera Settings*.
2. Select **Onboard Analytics** button.
3. Click **Reload from Device** button to ensure latest VCA rules from the camera are available.
4. Enable the presence polygon rule configured previously in this guide.
5. Check the **Alarm** box for the rule to ensure it triggers an alarm in VIGIL.
6. Click **OK** to save the settings.

After interfacing the camera's VCA rules with VIGIL, proceed with one of the available options below to interface the camera's VCA-based alarm with your alarm panel.

Consider the Following: If you are installing a single camera, wiring the cameras on-board DO directly to the alarm panel is likely simplest path. If you are installing multiple cameras, you can save a tech pulling multiple cable runs by utilizing an external DIO device such as an ADAM6060 located next to the alarm panel.

Option 1 - Camera's Onboard DO Wired Directly to Alarm Panel

1. Navigate to the camera's browser UI.
2. Navigate to *Setup* > *Trigger Action* > *Relay Output*.
3. Set *Idle State* to **Open** or **Closed** (depending on alarm panel requirement).

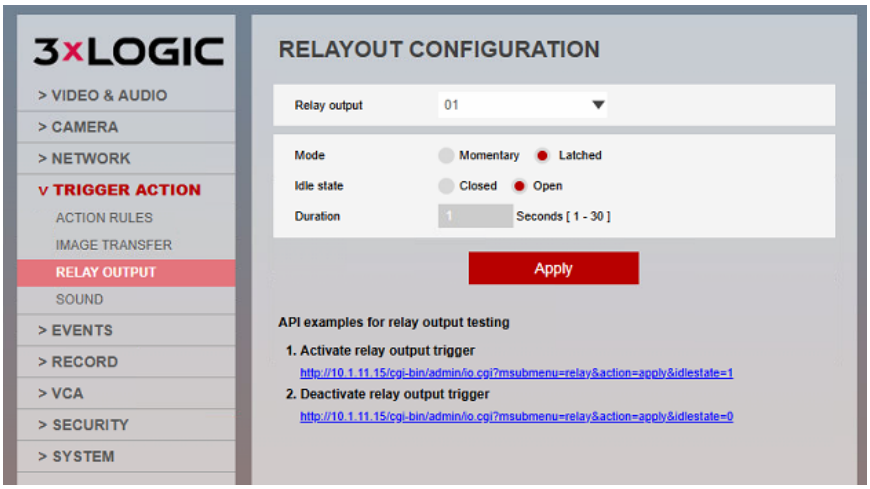


Figure 2-15: Browser UI - Relay (Digital) Out Configuration

4. Click **Apply** to save the settings.

The camera's DO must now be configured within VIGIL Server. In VSMU:

1. Navigate to the *Network Camera* settings form for the thermal sensor.

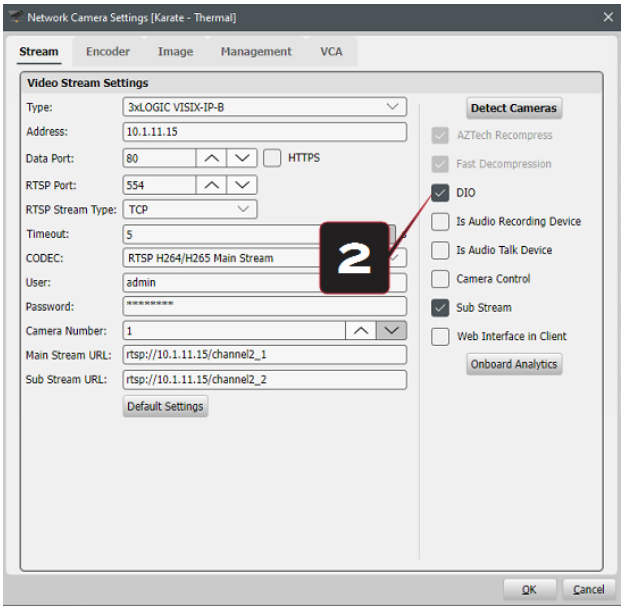


Figure 2-16: VIGIL - Network Camera Settings

2. Check the **DIO** box then click the **OK** button to save the *Network Camera* settings.
3. Navigate to *Relays / Alarms* > *Outputs* tab and select the DO from thermal camera in the *Output Relay* drop-down.
4. Set *Output State* to **Normal Open** or **Normal Closed** (depending on alarm panel requirement).

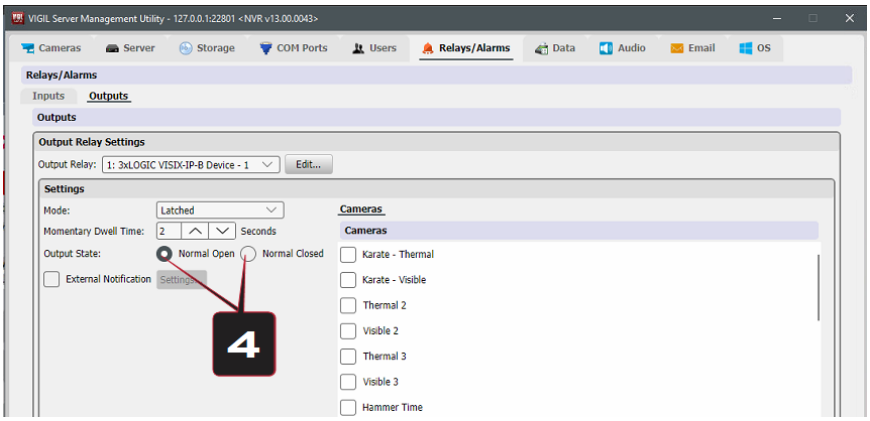


Figure 2-17: VIGIL - Relays / Alarms Settings > Digital Relay Output Settings

5. Navigate to *Cameras* > *Advanced Settings* > *Video Analytics Tab*
6. Select the presence polygon rule from the list then click the **Edit Rule** button.
7. Navigate to the *Alert Settings* tab and click the **Alert Settings**... button.
8. Set *Output Relay* to the DO associated with thermal camera. This will trigger the DO configured previously in this sequence whenever the thermal camera analytics alarm is triggered.

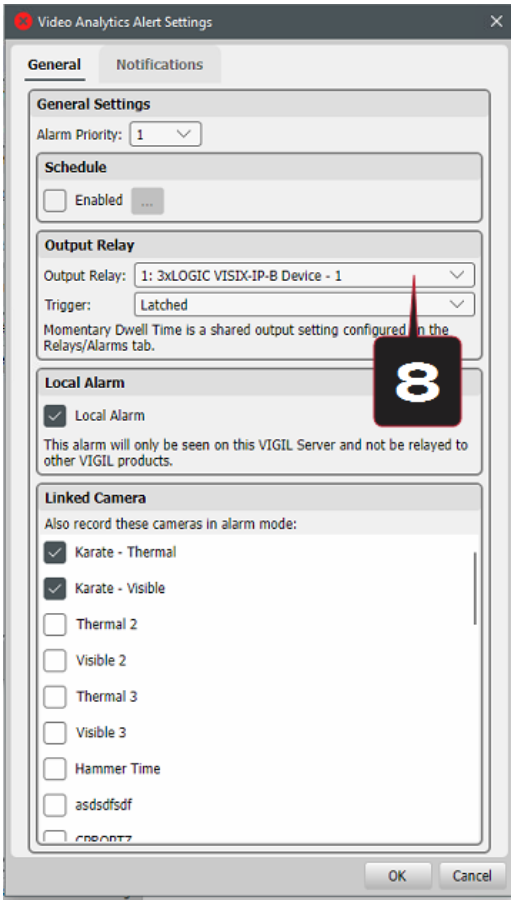


Figure 2-18: VIGIL - VCA Rule Alert Settings

After all software-side configuration is complete, the camera's DO can now be wired to your alarm panel:

9. Connect the cameras DO wire to the relevant zone on your alarm panel. Reference your alarm panel documentation for specifics on panel wiring. Reference the screenshot below for information on VX-VT-56-DUAL-X alarm wiring harness.

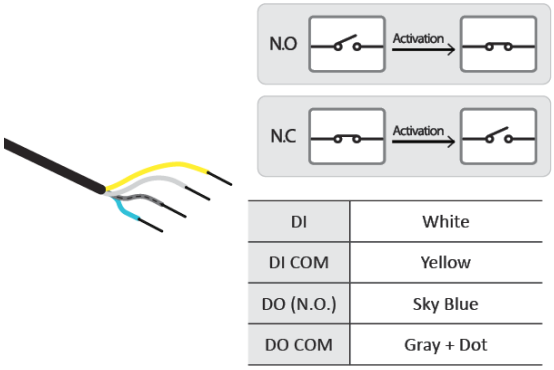


Figure 2-19: VX-VT-56-DUAL-X Alarm Wiring Harness

Option 2 - External DO (i.e ADAM6060) Wired Directly to Alarm Panel

Note: This document does not cover network setup of the ADAM6060 device, however the ADAM 6060 should be configured and visible on your network to complete this section of the guide. Refer to the relevent manufacturer docmentation for specifics on network setup of the ADAM6060.

1. Navigate to *VSMU* > *Server* >*Hardware* tab and click the **AUX Device Settings...** button.
2. Click the **Add** button. The *Add / Edit DIO Device* form will deploy.
3. Select **ADAM6060** from the *Type* drop-down menu.
4. Enter the ADAM6060's **IP Address** and click **Test IP** to ensure a successful connection to the ADAM6060 device.

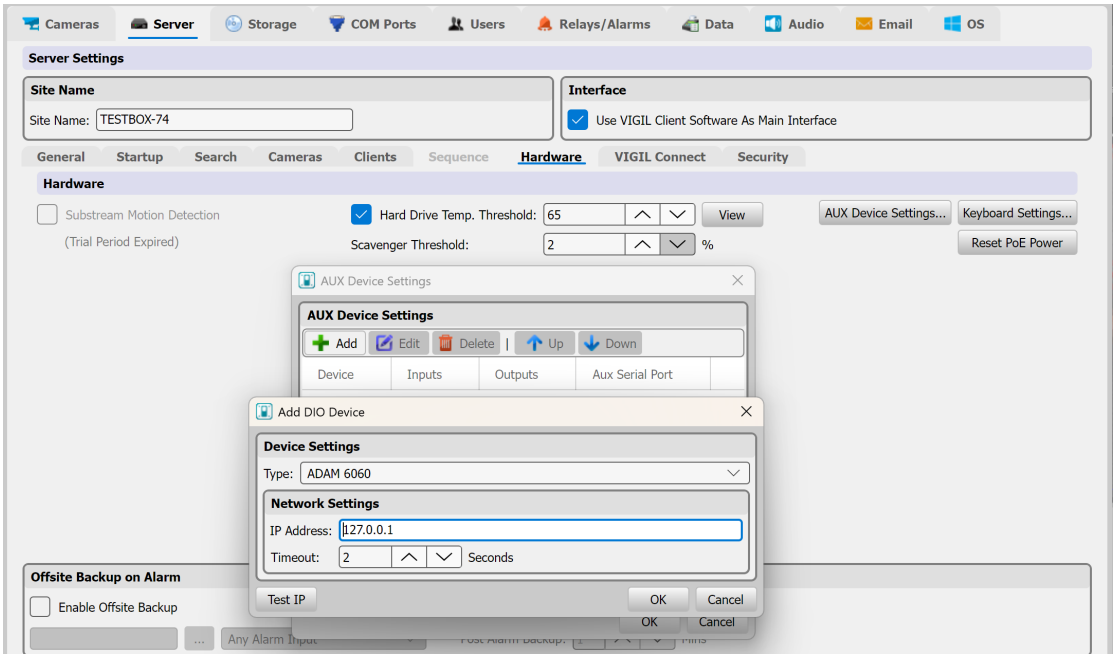


Figure 2-20: Adding ADAM6060 via VIGIL AUX Device Settings

5. Save the new AUX Device settings.
6. Navigate to *Relays / Alarms* > *Outputs* tab and select the ADAM 6060 DO you intend to wire to your alarm panel. There are 6 DOs available per ADAM6060 device.

> **Note:** Multiple cameras can trigger the same DO or each camera can trigger its own DO on the ADAM6060, depending on the requirements of your install / the number of available zones on your alarm panel.

7. Set *Output State* to **Normal Open** or **Normal Closed** (depending on alarm panel requirement).
8. Navigate to *Cameras* > *Advanced Settings* > *Video Analytics Tab*
9. Select the presence polygon rule from the list then click the **Edit Rule** button.
10. Navigate to the *Alert Settings* tab and click the **Alert Settings**... button.
11. To link the ADAM 6060 DO to the thermal camera, set *Output Relay* to the ADAM 6060 DO you chose earlier in this sequence. This will trigger the DO whenever the thermal camera's VCA alarm is triggered.

STEP 8 – LINK THERMAL VCA ALARM TO MARK FOOTAGE AS ALARM FOR VISIBLE LIGHT SENSOR IN VIGIL

With the *Video Analytics>Alert Settings* form still deployed:

1. Toggle the checkbox for the visible light sensor camera channel (*Karate - Visible* in the example) under the *Linked Camera* sections. This will cause an alarm to trigger on the visible light sensor when the VCA event is triggered on the thermal sensor.

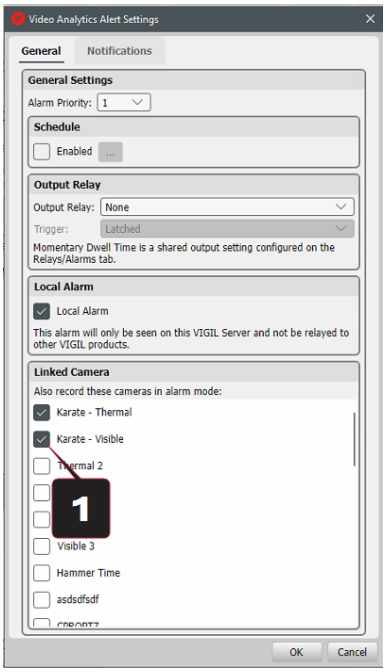
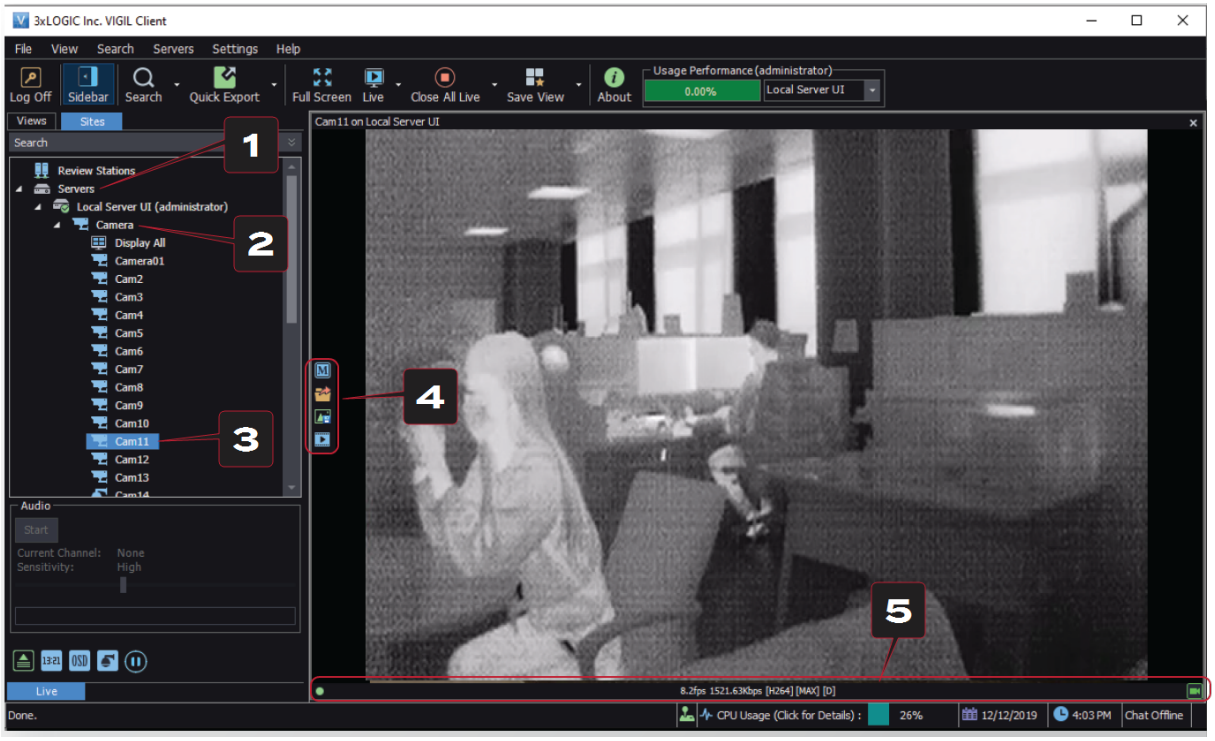


Figure 2-21: VIGIL Server - Video Analytics > Alert Settings

3 VIEWING CAMERA IN VIGIL CLIENT

VIEWING LIVE

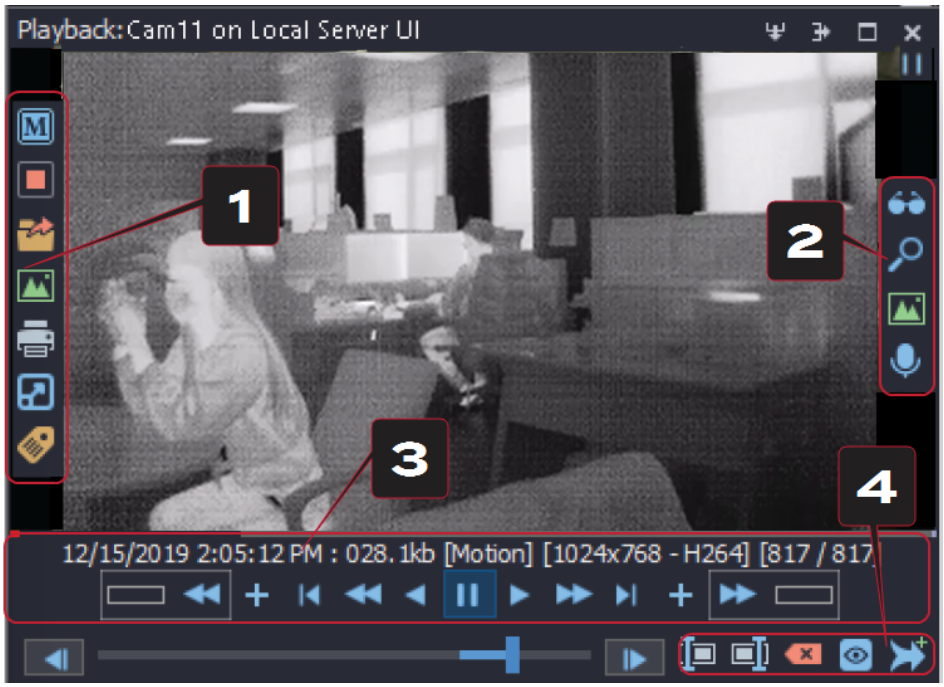
After adding the camera to VIGIL Server or setting the camera up as a standalone device (applicable models only), 3xLOGIC recommends VIGIL Client for viewing live and playback. Client's powerful toolset can be leveraged by users to thoroughly and quickly review camera footage and other data collected by a VIGIL Server or VIGIL All-in-One camera. Refer to the steps in this section for details on viewing the camera's footage in VIGIL Client.



1. After launching VIGIL Client, extend the Servers node located in the Sites tab treeview then double-click the desired VIGIL Server / standalone camera to reveal available devices and tools.
2. For Standalone devices, simply double-click the camera name in the drop-down to open a live view from the camera (skip to step 4). For VIGIL Servers, expand the Cameras node to reveal a list of available devices interfaced with the Server.
3. Double-click the desired camera. The camera's live stream will be automatically displayed in the viewing area.
4. Live Edge Controls instantly grant the user access to common tools such a Capture Still Image, Instant Replay and Stream Type Selection.
5. Stream information such as FPS rate, bitrate and CODEC type are listed when the cursor hovers over the boom edge of the frame.

SEARCHING AND VIEWING PLAYBACK

Select Instant Replay from the Live Edge Controls to open the last 5 minutes of footage from the camera or perform a playback search to review a custom me range of playback. A Playback viewer featuring the requested footage will deploy.



1. Playback Live-Edge controls include Export Video or Stills, Stream Mode Selection and Screen Record, etc...
2. Right-Edge Controls include more tools such as Smart Search, Audio and Zoom Controls and Image Control.
3. Stream information and standard playback controls are accessible at the boom of the frame.
4. Located next to the scrub bar, footage markers and export tools can be used to quickly narrow down and export portions of interest within larger video clips.

For further details on reviewing and exporting playback and other advanced features such as audio recording and two-way audio talk, POS Data OSD and more, please visit www.3xlogic.com and consult the product documentation library for VIGIL Client-related support documentation.

4 APPENDIX

- **VISIX Gen III User Guide** - For additional information on camera configuration via the camera's web UI, reference the latest version of the VISIX Gen III User Guide.
- **VISIX Gen III VCA Guide** - For additional information on VCA rule configuration via the camera's web UI, reference the latest version of VISIX Gen III VCA Guide.
- **3xLOGIC VISIX Server User Guide** - For additional information on on-boarding camera data to VIGIL Server via VSMU, reference the latest VIGIL Server User Guide.
- **VISIX Quick Start Guides** - For traditional camera installation information (part names, assembly / disassembly, mounting, cabling, etc...), refer to your specific camera's quick start guide.

5 CONTACT INFORMATION

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