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1 Introduction

This firmware release introduces integrated video analytics on existing and new Ariel Gen III CF-6308 4K Fixed box cameras.

The newly introduced Video Analytics allows new and existing customers to utilize sophisticated analytic capabilities on their new and installed cameras at reasonable cost.

1.1 Video Analytics Overview

The following different types of rules can be configured on the camera:

<table>
<thead>
<tr>
<th>Rule</th>
<th>Purpose</th>
<th>Design</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counting</td>
<td>Count the number of people crossing a line</td>
<td>Up to three separate lines working in concert.</td>
<td>Monitoring customers entering a store</td>
</tr>
<tr>
<td>Border Line</td>
<td>Keep track of people or vehicles crossing a line</td>
<td>Up to three separate lines working in concert</td>
<td>Intrusion detection along a fence</td>
</tr>
<tr>
<td>Loitering</td>
<td>Detect encroachment and trespassing based on the time spent in the scene</td>
<td>A single defined area</td>
<td>Monitoring an ATM or outside an apartment building</td>
</tr>
<tr>
<td>Area Protection</td>
<td>Detect people or vehicles coming into or going out of the scene</td>
<td>A single defined area</td>
<td>Secure a courtyard from trespassing or a no parking area</td>
</tr>
<tr>
<td>Object Removed</td>
<td>Detect objects being removed from the scene</td>
<td>Up to three defined zones</td>
<td>Monitoring shoplifting</td>
</tr>
<tr>
<td>Object Dropped</td>
<td>Detect objects being introduced to the scene</td>
<td>A single defined area</td>
<td>Securing public areas, such as transportation hubs, against suspicious objects</td>
</tr>
</tbody>
</table>

1.2 Using Video Analytics

After installing the Analytics license and setting up the initial parameters, customers with FLIR UVMS can also take advantage of the analytics feature integrated into the UVMS system, which shows OSD overlays for the analytics rules, receives events triggered by analytic rules and arms/disarms controls from the Control Center, without further need to access the camera web page.
2 Version Content

2.1 Version Details
Full version details: camera firmware version 20190125.

2.2 Firmware Version Location
To download the Firmware:
1) Navigate to the FLIR Visible camera page: https://www.flir.com/browse/security/visible-security-cameras/
2) Click on the camera of choice
3) Click "Go to support page" under the Product name

![Example of "Go to support page" link](image)

4) Click on the "Resources" tab

![Resources tab](image)

5) Find and download relevant Firmware

The firmware is also available by email from product.enterprise.support@flir.com.
3 Supported Products and Platforms

This version is applicable to the following products:

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF-6308</td>
<td>Quasar Gen III CF-6308 camera is an indoor/outdoor UHD/4K fixed box IP camera. It includes audio-in, audio-out, alarm-in, and alarm-out connections. The camera is shipped without a lens.</td>
</tr>
<tr>
<td>United VMS 7.0 LU 5784 and higher</td>
<td>Latitude/Horizon/Meridian update 7.0.0.5784 and above.</td>
</tr>
<tr>
<td>United VMS 8.0 LU 6119 and higher</td>
<td>Latitude/Horizon/Meridian update 8.0.4.6119 and above.</td>
</tr>
<tr>
<td>DNA 2.2.1.9 or higher</td>
<td>Utility required for initial discovery of the camera on networks without a DHCP server. To download the latest version of DNA and the DNA User Manual follow instructions here</td>
</tr>
</tbody>
</table>

**Note:**

1. To discover the CF-6308 camera in Latitude/Horizon/Meridian, select the FLIR option for the Unit Type in the Admin Center discovery.
2. The camera’s web UI is supported on Microsoft Internet Explorer 10 and above (32-bit version); Microsoft Edge 38 and above; Chrome v.55 and above; Firefox v.50 and above
4 Key Features

The CF-6308 is an indoor/outdoor fixed IP box camera that features a 1/2.5" progressive scan CMOS sensor with 3840x2160 resolution. The camera body includes a CS-mount for a P-Iris, DC-Iris lens, i-CS lens, or manual iris lens (not supplied). The camera is powered by an 802.3af Power over Ethernet (PoE) connection or an optional 12VDC or 24VAC power supply.

The camera includes the following key features:

4.1 Video Analytics

With Firmware 20190125 or above installed, the CF-6308 camera offers a wide variety of analytic rules that can be used in various ways. The selected rule should be appropriate for the physical scene and the main objective in securing the area.

Note: This feature requires license activation to operate. See Appendix A. 2. for details. The feature is disabled until the license is installed. Supported on UVMS 8.0 and later.

4.2 Image Quality Enhancements

When camera is set to 4K, Enhanced Low Light Performance (ELLP) enhances the image and sensitivity. It also keeps cameras in color for longer before switching to black and white mode. ELLP is Off by default, and can be enabled under Settings > Camera > Exposure > Day/Night Switch Control

Note: ELLP should be disabled when using Storage on the Edge (SoE).

4.3 Improved ONVIF Support

ONVIF support continues to be improved. This firmware upgrade moves the camera closer to full ONVIF Profile G support, with FLIR UVMS not far behind. This now includes a level of SOE support, with the goal of providing true ONVIF-compliant SOE integration between camera and VMS.

4.4 Firmware Verification

The Firmware file folder now includes an encrypted checksum file, which can be used to check file validity using the checksum validation software of your choice.
4.5 Support for i-CS lenses
The i-CS Lenses provide enhanced control and performance, including distortion correction and the ability to focus and zoom simultaneously.

4.6 Day/Night Detection Event
An event type has been added with this firmware that will allow for actions to be triggered in the case of a switch between day and night mode.

Configurations include the ability to trigger from:

- Day to night
- Night to day
- Both day to night and night to day

Some of the actions include:

- Send an alarm upon a Day/Night event
- Select and play an audio file upon a Day/Night event
- Send email notifications
- Display text on-screen if there is a Day/Night event
- Set the alarm schedule

4.7 Support for RS-485 configuration from Latitude
The cameras support the configuration and use of the RS-485 port in FLIR Latitude Admin Center. This feature is configured on the PTZ Configuration tab.
3.8 Digital Zoom Control

The camera has a digital zoom feature that allows the user some flexibility in determining the scene of interest. A default digital zoom value is available.

Note: Digital Zoom is Off by default. Zoom adjustment needs to be made before any analytics/motion detection settings are configured.

Figure 3 - RS-485 Configuration in Latitude

Figure 4 – The Digital Zoom Control Web Interface
5 Firmware Upgrade Procedure

**Note:**
It is recommended to:
1. Clear the browser’s cache
2. Remove the existing Ariel player before accessing the camera.

The camera's firmware can be updated by using the Discovery Network Assistant (DNA) tool or over the web from the unit’s web interface. It is recommended to use DNA firmware version 2.2.1.9 or higher to upgrade from a previous firmware version.

5.1 Upgrading with DNA

**How to perform the firmware upgrade**

Run DNA and perform the firmware upgrade according to instructions in the *DNA User Manual*. To download the manual, find the steps [here](#).

5.2 Upgrading from the Camera’s Web Interface

**How to perform the firmware upgrade**

1. From the Setup tab in the unit’s web interface, select **System > Basic Configuration > Firmware**.
2. Click **Browse** to locate the firmware file.
3. Select the file. The file name is displayed (for example, ArielFHD_20170714).
4. Click **Upgrade**. The upgrade process takes about three minutes. After the firmware has upgraded successfully, the camera reboots. The **Rebooting Complete** dialog box opens.
5. Click **OK**. The **Live** screen opens.
6 United VMS Compatibility

The firmware was approved for United VMS 7.0.0.5784 and United VMS 8.0.4.6119 or higher.

It is necessary to install an Update Patch in order for the unit to operate with United VMS 7.0 and United VMS 8.0. For additional details, please see the UVMS support documentation.
7 Known Issues

<table>
<thead>
<tr>
<th>Issue</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video on the VMS stops for a few seconds while configuring analytics on the web UI.</td>
<td></td>
</tr>
<tr>
<td>Changing time settings on the camera while the storage on the edge (SD card) is actively recording will result in losing some recordings.</td>
<td>Change the time settings before enabling storage on the edge recording. Keep the time zone on UTC.</td>
</tr>
<tr>
<td>When upgrading an attached camera from firmware 20170714 to firmware 20190125, the scene sometimes remains inaccessible (no video) after the upgrade.</td>
<td>Manually re-discover the camera on the VMS.</td>
</tr>
<tr>
<td>When upgrading from firmware 20170714 to firmware 20190125, the SD card recording Overwrite setting is disabled.</td>
<td>Enable the recording Overwrite on the camera’s web UI.</td>
</tr>
<tr>
<td>SoE clips don’t contain analytic metadata/OSD</td>
<td></td>
</tr>
<tr>
<td>Camera may go out of time sync after a while</td>
<td></td>
</tr>
<tr>
<td>Some jitter in the video stream may appear when basic analytics is working at the same time as the SoE</td>
<td></td>
</tr>
<tr>
<td>On some cases, generating a self-signed certificate fails.</td>
<td>1. Try Again. 2. If the camera is attached to the VMS, re-discover it. 3. Apply partial factory defaults.</td>
</tr>
</tbody>
</table>
Appendix

A.1. Discovering and Configuring the Camera with DNA

DNA 2.2.1.9 or higher is required for the initial discovery of the camera on networks without a DHCP server. DNA is also used to access the camera and to change its IP address.

If you have more than one camera, connect them one at a time and change their IP addresses to avoid potential network conflicts.

To download the DNA and for detailed guidelines about DNA and its usage, refer to the DNA User Manual, found on the camera product page of the website:

2) Click on the camera of choice
3) Click "Go to support page" under the Product name

4) Click on the "Resources" tab

5) Find and download relevant documentation and software
A.2. Activating Video Analytics

A license that is tied to a camera’s Serial Number is required to activate the Video Analytics rules and features on that camera. The Serial Number is displayed on the camera’s box or in the web UI, on the System > Firmware page.

To procure a license, contact FLIR Operations.

Uploading the license file through the camera’s web UI
1. Identify the camera’s Serial Number. The license file would have the corresponding Serial Number as its name.
2. On the web UI, System > Basic Operations page, under Video Analytics License, click Browse and select the license file.
3. Click on Import. The camera would load the license and the Video Analytics pages would be accessible.

![System > Basic Configuration > Basic Operations](image)

Uploading the license file through DNA 2.2.1.9
DNA 2.2.1.9 and later supports uploading the Basic Analytics license. For details, please see the DNA 2.2.1.9 User Guide.

Note:
1. If the camera was attached to UVMS before the license activation, it needs to be manually re-discovered. This can be done by right-clicking on it in Admin center and selecting "Rediscover unit" from the drop menu.
2. It’s recommended to save the licenses in a secured location. Applying full factory defaults on the camera removes the license. The license can be re-loaded. Applying partial factory defaults does not remove the license.