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1 Introduction

This firmware release introduces integrated video analytics on existing and new Ariel Gen III and Quasasr CF-6308 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></td>
<td><strong>Note:</strong> The camera should be mounted looking down at the line (at 90 degrees)</td>
<td></td>
<td></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.

1.3 Version Details

Full version details: camera firmware version 20190125.
1.4 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

4) Click on the "Resources" tab

5) Find and download relevant Firmware

The firmware is also available by email from product.enterprise.support@flir.com. Beta participants shall receive a separate download link.
2 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>CM-3304/CM-3308</td>
<td>CM-330X indoor/outdoor mini-dome IP camera. The unit is a day/night camera with a 4MP (CM-3304) or 8MP (CM-3308) sensor and includes an IR cut filte, audio line in and alarm in. It supports four streams: 4MP or 8MP, Full HD 1080p, HD 720p, and D1 with H.265, H.264 or MJPEG compression.</td>
</tr>
<tr>
<td>CB-3304/CB-3308</td>
<td>The cameras support up to three streams at 4MP (CB-3304-11-I and CB-3304-21-I) or 8MP (CB-3308-11-I) with H.265, H.264 or MJPEG compression. The units feature True Day/Night (ICR) and an infrared LED illuminator. They also include Audio Line-In, Audio Line-Out, Alarm-in, and Alarm-out connections.</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 Ariel Gen III 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
3 Key Features

3.1 Video Analytics

The Ariel Gen III 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 is disabled by default and requires license activation to operate. See Appendix A.2. For details. Supported on UVMS 8.0 and later.

3.2 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 checked Off by default, and can be enabled under Settings > Camera > Exposure > Day/Night Switch Control.

Note: ELLP is only available on the CB-3308/CM-3308 models and should be disabled when using Storage on the Edge (SoE).

Figure 1: Enhanced Low Light Performance (ELLP)

3.3 Improved ONVIF Support

ONVIF support continues to get tighter and more advanced. The camera is gearing up with support for ONVIF Profile G with FLIR UVMS not far behind. This will allow for full integration between FLIR cameras an VMS for a true SoE integration.

3.4 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.

3.5 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
Key Features

- 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 even
- Set the alarm schedule

Figure 2 - Day/Night Event
4 Firmware Upgrade Procedure

Note:
It is recommended to:
1. Clear the browser’s cache
2. Remove the existing Ariel player before accessing the camera.
3. Manual re-discovery of the camera on the VMS may be required.

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.

4.1 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.

4.2 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.
5 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. Please see UVMS help manuals for additional information.
## 6 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>Manually re-discover the camera on the VMS.</td>
</tr>
<tr>
<td>When upgrading an attached camera from 20170914 to 20190125, the scene sometimes remains inaccessible (no video) after the upgrade.</td>
<td>Enable the recording Overwrite on the camera's web UI.</td>
</tr>
<tr>
<td>When upgrading from firmware 20170914 to firmware 20190125, the SD card recording Overwrite setting is disabled.</td>
<td></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>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>Some jitter in the video stream may appear when advanced VMD 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:

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

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.

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.