Camera Configuration Tool

Installation & User Manual

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1 Introduction

This document describes how to use the Camera Configuration Tool to configure and upgrade Halocam and the Evolution Camera Range.

1.1 Opening the Camera Configuration Tool

Click the Camera Configuration Tool icon located on your computer desktop screen, or go to the Windows Start Menu → All Programs → Oncam Grandeye → Camera Configuration Tool to launch the program.

When the Camera Configuration Tool opens, it will look like this:

The menu bar at the top left hand side of the window comprises 3 options:

- **Application**: allows you to Exit the software
- **Language**: allows you to change the software language
- **Help**: provides information about the Camera Configuration Tool version
1.2 Selecting the Language

In the top menu bar, click Language to open the drop-down language selection list, and click on the desired language.

NOTE: You might have to refresh the camera list after you change the language.

2 Discovering and Viewing Cameras on the Network

1. Open the Product Filter field drop-down list, and select the camera type to be displayed. There are currently 4 types of cameras that can be selected:

- Halocam Camera
- Evolution-05 Mini
- Evolution-05 Camera
- Evolution-12 Camera
- Evolution 180 Camera

Only those cameras of the product type selected above will be displayed in the list. These should automatically be populated with all the selected camera type found on the network.

2. Refresh List

If necessary, click the “Refresh List” button to automatically rediscover all cameras on the network and display them dependent on the selection in the Product Filter drop down. This sends a multicast message and waits for replies from the IP Cameras. Details of connected cameras will then be displayed.

3. Full Discover

This is another mechanism to automatically discover all cameras on the network. This also sends a multicast message, waits for replies from the IP cameras, and then sends an HTTP request for further details from each camera. The camera’s username and passwords need to be entered for HTTP requests (admin by default).

4. Add Camera by IP Address

Alternatively, enter the IP address of your camera manually and Add to List. (The default port is 80 but it is subject to camera settings). This will query the network for a camera at the specified address and, if successful, display the camera details in the list. The camera model must match the selected product type to be entered into the list.
Note: The columns inside the camera listing window can be resized for more information as required.

The following information is displayed after a refresh:

- **Camera Name**
  Displays the camera name

- **Type**
  Displays the camera model

- **IP Address**
  This displays the active IP address of the camera

- **Port**
  Displays the HTTP port number

- **MAC Address**
  This displays the MAC address of the camera

- **Firmware**
  - For Evolution cameras: displays the camera’s current firmware version
  
  - For Halocam cameras: current software version. After a Refresh, the software version will display for Halocam IP camera versions 39.4+. After a Discovery, the software version will display for all camera versions, where the software is running.
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- **Status**
  This displays the current status of the cameras as follows:
  
  - **Evolution Range Cameras (EVO-05, EVO-05 Mini, EVO-12)**
    - **OK**
      camera is accessible on network from PC and software is running
    
    - **Not Accessible**
      auto-discovery failed to find camera that was previously in the list (matched by MAC address); camera may be upgrading; been removed from network; been powered down.
    
    - **IP Invalid**
      camera and PC are on different subnets. Camera cannot be directly accessed using its current IP address. See Note below.
  
  - **Halocam**
    - **Unknown**
      (Halocam IP camera versions pre 39.3)
    
    - **IP Invalid (Software Stopped)**
      (Halocam IP camera versions 39.4+): camera and PC are on different subnets and software has stopped running (may be upgrading, or software failure); camera cannot be directly accessed using its current IP address. See Note below.
    
    - **IP Invalid (Software Running)**
      (Halocam IP camera versions 39.4+): camera and PC are on different subnets; camera cannot be directly accessed using its current IP address. See Note below.
    
    - **Accessible**
      (Halocam IP camera versions pre 39.3)
      camera is accessible on network from PC and software is running
    
    - **Accessible (Software Stopped)**
      (Halocam IP camera versions 39.4+)
      camera is accessible on network from PC and software has stopped running (may be upgrading, or software failure)

- **Mask**
  Subnet mask set by user for use when static network configuration is chosen. If camera is running DHCP, the subnet mask actually being used may be different to that shown.

- **Gateway**
  Set by user for use when static network configuration is chosen. If camera is running DHCP, the gateway actually being used may be different to that shown.

- **Link Local**
  IP Address. Secondary IP address within the link-local range 169.254.x.x

- **Upload Success**
  Gives you information about the firmware update status

**Note:**

If the IP address of the camera is not accessible due to network configurations of the camera and the PC, the Camera Configuration Tool will attempt to allocate the local PC with a link-local address (in the range of 169.254.0.0 – 169.254.255.255), which requires administrative privileges.

To run the application as an Administrator, right-click the Camera Configuration Tool icon and select “Run As Administrator”.

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3 Import/Export

This feature will be made available in a future software update.

4 Browser

This allows the user to open the selected camera web configuration page for the selected camera to perform advanced configuration.

Select one or more cameras from the list and click the desired web browser button, depending on your computer’s installation. If that web browser is not installed, then the default one will automatically open.

You will have to enter the User Id and Password for each camera selected. Default values are:

Username: admin
Password: admin

5 Camera Configuration

Camera Configuration Tab:
The Camera Configuration tab can be used to perform multiple simultaneous operations on the cameras listed, such as sending commands or setting new values. You can also Save and Restore your configuration, use an external configuration file to send commands to cameras, and Reboot multiple cameras at once.

5.1 Send command to camera
This allows a pre-defined command to be sent to one or more cameras at any one time. First select/tick the camera(s) you wish to send the command to; then open the drop-down list to select a command to send:

Click Send to apply the command.

First select / tick the camera(s) you wish to send the command to then Open the drop-down list to select the 'factoryreset.cgi' command and click Send:

**NOTE**: a factory reset can also be done directly via the hardware button on the side of the camera / or from within the camera webpage

After the command is executed, the following pop-up windows will appear:

5.2 Enter new setting and value
This allows to send a pre-defined setting and value to one or multiple cameras at a time. Open the drop-down list to select a setting to send:

- cameraname
- mounttype
- mountwallinvert
Select a setting from the drop-down list and enter a value in the adjacent field. For example, “cameraname” and “reception area”. Then click **Set** to apply this setting to the selected cameras from the list. (Scroll down to see all options)

In order to send any further commands to the selected cameras, you will have to **Refresh List** again for the Camera Configuration Tool to confirm that these changes have taken effect.

Once a new setting has been input, ticking the checkbox labelled “Reboot After” will reboot the camera.

**NOTE:** Reference the Halocam Compact IP API Functional Description or Evolution API Specifications document for full details of commands and parameters.

### 5.3 Send Commands from File

A series of commands written in a file can be sent to one or more cameras for processing. Refer to the camera API documentation for full details of commands and parameters.

An example file to set the camera name, image brightness, contrast and saturation levels of two VCams, and to retrieve the software version would be as follows:

```
setparam.cgi?cameraname=newName
setparam.cgi?vcambrightness0=10&vcamcontrast0=1&vcamsaturation0=1.6
setparam.cgi?vcambrightness1=10&vcamcontrast1=1&vcamsaturation1=1.6
savesettings.cgi
getparam.cgi?softwareversion
```

In the camera list, use the checkboxes to select the cameras to receive the commands. From the Camera Configuration tab, click the **Send Commands from File** button. Select the location path to the commands file. The commands will be sent to the cameras selected, any errors in processing will be displayed in a pop-up box. If an error is encountered, no further commands are sent to that camera.

**NOTE:** It is recommended that you test the commands file on one camera to ensure your settings are correct before sending potentially erroneous commands to many cameras.

### 5.4 Save/Restore Configuration

The camera settings can be saved into a file on your computer and restored later if needs be. Select one or multiple cameras from the list and click the **Save Configuration** button.

The settings of each camera will be saved in a separate file “camera_settings.ecs” for each camera. You will be asked to select a location for each file.

When saving the configuration of multiple cameras at once, be careful to rename each file accordingly before pressing the Save button, or select a different location to avoid replacing a current file with a new one with the same name.

**NOTE:** on Evolution cameras, not all the camera settings are saved using this function.

#### 5.4.1 Restore configuration file - Evolution

1. In the camera list, use the checkboxes to select the camera onto which you wish to restore the configuration
2. Select the Camera Configuration tab
3. Click Restore Configuration
4. Browse to the file which contains the saved settings and click Open
5. Repeat from Step 1 for each individual cameras

5.4.2 Restore configuration - Halocam
1. In the camera list, use the checkboxes to select the cameras onto which you wish to restore the configuration files.
2. Select the Camera Configuration tab
3. Click Restore Configuration
4. Select which configuration files to restore
5. Browse to the folder which you selected during the Save Configuration process above. Each sub-folder will be matched to each selected camera, based on the MAC address of each camera.

5.5 Reboot
The Reboot button enables one or more cameras to be rebooted simultaneously.

6 Upgrading Cameras

6.1 Evolution Camera Range
6.1.1 Software Upgrade (.elfi file)
Note: Consult the firmware release notes before upgrading cameras on live systems, paying close attention to notes on cameras being reset to factory defaults, factory reset of IP settings, or on compatibility implications with specific Video Management Software.
1. In the camera list, use the checkboxes to select the cameras to be upgraded.
2. Select the Upgrade Software tab
3. Browse to the upgrade file which has a ".elfi" file extension.
4. Select "Upgrade".
5. A prompt to save the camera configuration will be displayed. This configuration can be restored later. Continue and select which folder to save the file to. Do not modify the saved file. Doing so could result in the settings not being able to be restored. Once the configuration has been saved, the upgrade process will continue.

Note that the uploading process will take several minutes. The camera is being upgraded during this process. Cameras will reboot automatically once they are upgraded.
6. Once the upload is complete for all cameras selected, a Success/Fail summary will be displayed.
7. Refresh the camera list to show the firmware version, including those that have been upgraded. To confirm which cameras have successfully upgraded, Refresh List or Full Discover. Cameras will not appear until they have finished rebooting.

**Note:** For the Evolution camera range, the firmware version shown is model dependant. For example:

- Evolution 05 models: 1.9.16
- Evolution 05 Mini models: 1.9.16L; where the “L” is specific to the Evolution Mini model

The same process can be used for downgrading software.

### 6.2 Halocam IP Camera

#### 6.2.1 Software Upgrade Halocam IP Camera (.hlfp file)

1. In the camera list, under Camera Name, use the left-hand checkboxes to select the cameras to be upgraded.
2. Select the Upgrade Software tab
3. Browse to the .hlfp file
4. Select “Upgrade”.
5. A prompt to Save Config Files will be displayed. If this is required, continue and select which folder to save the files to. A sub-folder for each selected camera will be created (based on the MAC address), into which the configuration files will be saved into. We recommend saving User Settings which will save all configuration files. Do not modify these saved files. Doing so will result in them not being able to be restored.
6. A status report of all the configuration files from all devices being saved will be displayed. Once complete, a summary of the number of successes and failures is displayed, with any errors being reported at this time.
7. When prompted, continue to Upload Pack.
8. Once the upload is complete, a Success/Fail summary will be displayed.
9. The cameras will now be upgrading. This will take approximately 8 minutes from when the pack was fully received.
10. To confirm which cameras have successfully upgraded, Refresh List or Full Discover and verify the software version (Soft. Ver) is the new software version.
11. The configuration files saved in step 5 now need to be restored.

### 7 Network Settings

The **Network Settings** tab enables network settings to be sent to many cameras at a time.

1. To retrieve network settings from a single camera, select **Get Network Settings**. This will populate the fields shown above with the camera’s **static** IP Settings. If DHCP is enabled, these static settings are not in use. The camera’s **active** IP settings are shown in the camera table above.
2. To save network settings to many cameras, select the cameras you wish to configure and Save Network Settings. For the settings to be sent to the camera, you must define a Default Gateway (even if one does not exist on your network). The Subnet Mask must match the Static IP Address and the Default Gateway, even if DHCP is switched on.

3. To send sequential static IP Addresses to a series of cameras, select the cameras you wish to configure, enter the starting IP address, subnet mask and gateway and Save Network Settings. The same subnet mask and gateway will be sent to all cameras. The application will give you an opportunity to review the IP addresses before sending them to the cameras.
8 Contact Technical Support
Send email requests to support@oncamgrandeye.com. Include a detailed description of the problem, the model number and firmware version of the cameras you are using and any relevant configuration information.

9 Appendix A – Additional Online Resources

9.1 Technical Specifications
Oncam Grandeye is constantly working on new features and functionalities for its Evolution camera range. For the latest Technical Specifications, go to the Oncam Grandeye website and download the latest product Specification Sheet.

9.2 Oncam 360-degree Viewer
You can download the latest Oncam 360-degree Viewer (and its User Manual) for the Evolution range of Cameras. The Instruction Manual describes how to use the Oncam 360-degree Viewer to view and dewarp live images from any Oncam camera that is connected to the same network. There is no set up required as the Viewer will automatically find any Oncam Evolution cameras connected to the same network.

https://www.oncamgrandeye.com/security-systems/360-camera-viewer/

9.3 OnVu360 Mobile Application (iOS and Android)
The OnVu360 mobile app enables users to fully experience surveillance through 360 degrees, in full HD and in the palm of your hand.

The OnVu360 app gives you the ability to monitor your 360-degree cameras in real time, enabling anytime access to the information that matters most. Navigate 360-degree video with zero latency using the pinch to zoom features of any iOS or Android device. The OnVu360 app can stream up to a full 12-megapixels. Streaming over Wi-Fi, 3G and 4G/LTE connectivity, you can also take a “snapshot” to save precious data if used over a cellular-data network.

Scan the QR Code with your iOS or Android device to download the ONVU360 mobile app.
10 Appendix B – Frame Rate, Resolution & Storage Needs

Default Settings

H.264

<table>
<thead>
<tr>
<th>Resolution</th>
<th>Frame Rate</th>
<th>Constant bit rate settings</th>
<th>Bit Rate (Mbits/s)</th>
<th>Storage (24hrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4MP (2144 x 1944)</td>
<td>10fps</td>
<td>5 Mbits/s</td>
<td>54GB *</td>
<td></td>
</tr>
<tr>
<td>2MP (1488 x 1360)</td>
<td>15fps</td>
<td>3 Mbits/s</td>
<td>40GB *</td>
<td></td>
</tr>
<tr>
<td>1MP (1056 x 960)</td>
<td>15fps</td>
<td>1.5 Mbits/s</td>
<td>16GB *</td>
<td></td>
</tr>
<tr>
<td>1/4MP (528 x 480)</td>
<td>15fps</td>
<td>0.8 Mbits/s</td>
<td>8GB *</td>
<td></td>
</tr>
</tbody>
</table>

* Based on the same scene, with constant average light conditions

MJPEG

<table>
<thead>
<tr>
<th>Resolution</th>
<th>Frame Rate</th>
<th>Average file size</th>
<th>Average bit rate</th>
<th>Storage (24hrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4MP (2144 x 1944)</td>
<td>10fps</td>
<td>640KB</td>
<td>52.4 Mbits/s</td>
<td>552.96 GB *</td>
</tr>
<tr>
<td>2MP (1488 x 1360)</td>
<td>15fps</td>
<td>350KB</td>
<td>43.0 Mbits/s</td>
<td>453.60 GB *</td>
</tr>
<tr>
<td>1MP (1056 x 960)</td>
<td>15fps</td>
<td>188KB</td>
<td>23.1 Mbits/s</td>
<td>243.65 GB *</td>
</tr>
<tr>
<td>1/4MP (528 x 480)</td>
<td>15fps</td>
<td>62KB</td>
<td>7.6 Mbits/s</td>
<td>80.35 GB *</td>
</tr>
</tbody>
</table>

* Based on the same scene, with constant average light conditions

NOTES:
Values for frame rate, size, and bandwidth are approximate and are influenced by compression, quality settings, number of simultaneous viewers, and the amount of detail and movement in a scene.

11 Appendix C – NVR and Storage Partners

For an up to date list of NVR / VMS partners that support the Oncam Grandeye 360° IP cameras, visit the Oncam Grandeye web site [www.oncamgrandeye.com/partners](http://www.oncamgrandeye.com/partners)
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