

# Posting Face Snapshots: Setup and Guidelines

## Purpose

The purpose of this technical brief is to:

- Provide the step-by-step process of configuring the upload of snapshots from a Bosch IP Camera with firmware 5.6 and higher to a FTP or Dropbox account.
- Provide best practices, guidelines, and feature limitations.

## Prior to Starting

- Bosch IP Cameras should have firmware version CPP4\_H.264\_5.60.xxxx.fw or higher installed.
- For best performance the latest software should be installed on the technician's laptop. At the time of this writing Video SDK 5.61.0048.16408 and Configuration Manager 4.44 are available.
  - Software can be obtained by downloading and installing the BVC-1.4.327SR2SC software suite from the Bosch Security website.
- You should have network connectivity to an active FTP Server or Drop Box account.

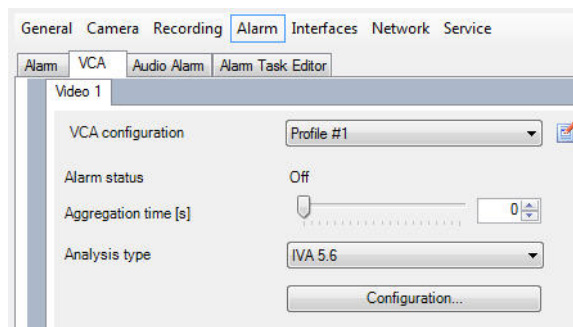
## Best Practices and Feature Limitations

- For face snapshot posting to function one of the three algorithms Motion+, IVA or IVA Flow has to be active. This includes "Silent VCA" as Motion+ is active in this mode.
- Face detection runs in parallel to Motion+, IVA and IVA Flow. It is independent of the configuration and results of the other three algorithms.
- Face detection does not require or use calibration.
- Face detection is not restricted to any sensitive area.
- Face detection is independent of configured encoder streams.
- Face detection is designed for a "Frontal" Face Detection:
  - Up to 20° variation from frontal view is possible without performance loss.
  - Hats, glasses, and hair are not taken into account as long as the face is visible.
  - For optimal performance ambient light or "spot lighting" the face is recommended.
  - Low light and shadow conditions can reduce performance
  - Motion Blur can reduce performance
  - For optimal processing the Field Of View (FOV) should have a uniform background. Highly textured objects in the background can reduce performance.
- Faces are tracked over time. For face snapshot posting, a single, most optimal snapshot of a tracked face is selected.
  - A face track will end when a person looks to the side or leaves the camera view. When the person looks back into the camera or reenters the camera view, a new face track is started and another snapshot of the same person will be uploaded.

## Setup

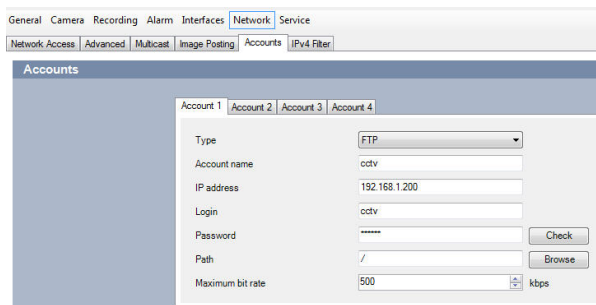
Step 1: Ensure that one of the IVA algorithms has been enabled on the device you are working with. From Configuration Manager with the device highlighted:

- Select the "Alarm" menu and "VCA" submenu
- In the "VCA configuration" dropdown menu select "Profile #1"
- In the "Analysis type" dropdown menu select IVA 5.6
- Save your work

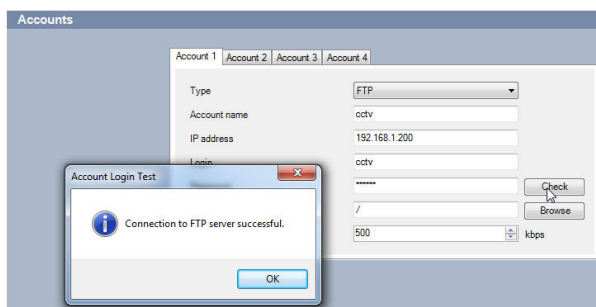


**Step 2: Configure the account you want to post detected faces to:**

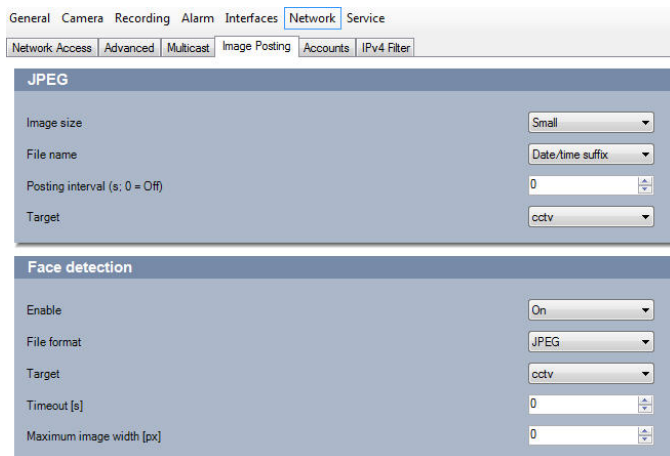
- Select the “Network” menu and “Accounts” submenu.
  - In this example “FTP” is selected and the information of an existing FTP Server has been added
  - Save your work

**Step 3: After the server and account information has been added:**

- Select the “Check” tab, this should validate the connection to your FTP Sever
- To select a different file location other than the assigned “root” directory select the “Browse” tab
- Save your work

**Step 4: To enable Face Detection:**

- Select the “Image Posting” sub menu.
- In the “Face detection” portion of the page use the “Enable” dropdown menu and select “On”
- “File format” can be set to JPEG, TIFF, or YUV420
- From the “Target” dropdown menu select the target account
- “Timeouts” can be configured as desired
- “Maximum image width” in pixels can be set as desired
- Save your work



**Results and What to Expect**

- The following are sample results taken from a Dinion 1080P HD Camera mounted at an elevation of 10 ft. Pictured to the right is the base Field of View (FOV) as seen by the camera:



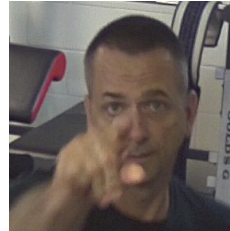
- Once a face is detected, the best snapshot of that face is extracted from the scene in the specified format.
- File size can vary based on where the face was detected in the FOV.
- From a sample of 200 faces files, sizes range from 3K to 30K with the average being between 8K and 20K

|                       |                    |            |       |
|-----------------------|--------------------|------------|-------|
| 2013-07-16_05_27_1... | 7/16/2013 10:27 AM | JPEG Image | 30 KB |
| 2013-07-16_05_01_1... | 7/16/2013 10:01 AM | JPEG Image | 4 KB  |
| 2013-07-16_05_00_4... | 7/16/2013 10:00 AM | JPEG Image | 4 KB  |
| 2013-07-16_05_00_4... | 7/16/2013 10:00 AM | JPEG Image | 4 KB  |
| 2013-07-16_05_00_4... | 7/16/2013 10:00 AM | JPEG Image | 4 KB  |
| 2013-07-16_05_00_3... | 7/16/2013 10:00 AM | JPEG Image | 4 KB  |
| 2013-07-16_05_00_1... | 7/16/2013 10:00 AM | JPEG Image | 8 KB  |
| 2013-07-16_05_00_1... | 7/16/2013 10:00 AM | JPEG Image | 5 KB  |
| 2013-07-16_05_00_1... | 7/16/2013 10:00 AM | JPEG Image | 9 KB  |
| 2013-07-16_05_00_1... | 7/16/2013 10:00 AM | JPEG Image | 4 KB  |
| 2013-07-16_05_00_0... | 7/16/2013 9:59 AM  | JPEG Image | 5 KB  |
| 2013-07-16_04_59_5... | 7/16/2013 9:59 AM  | JPEG Image | 4 KB  |
| 2013-07-16_04_59_5... | 7/16/2013 9:59 AM  | JPEG Image | 4 KB  |
| 2013-07-16_04_59_5... | 7/16/2013 9:59 AM  | JPEG Image | 3 KB  |

- Shown below are two images extracted from different points within the FOV.
  - The one on the left is from the furthest point in the FOV and is 3K
  - The one on the right is from the near portion of the FOV and is 11K



3K

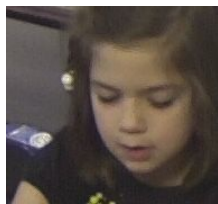


11K

- Below are examples of the effects that motion and low lighting can have on Face Detection:



Running through scene



Walking through the scene



Reduced Lighting



Normal lighting

- Below are examples of the effects that hats, glasses, and face shielding have on face detection:

