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Guide for Configuring Recording and VMD for IQeye Cameras

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Guide for Configuring Recording and Video Motion Detection on IQeye Cameras



This guide provides a step-by-step procedure for recording the IQeye® series cameras with ViconNet (version 7). It assumes an understanding of ViconNet and the cameras. Refer to the ViconNet® and camera manuals for detailed information.

Setup and configuration of cameras are done using the IQfinder discovery tool and the camera Web Browser interface; the initial configuration for recording is done in the camera and continues in ViconNet.

VMD alarm is generated by the camera due to activity beyond specified sensitivities in preconfigured regions of interest (ROIs) in the camera view area. The VMD message is sent from the camera and received in ViconNet.

In ViconNet Recording Manager, each camera can be individually setup to a specific recording scheme. Typically, a camera is recording 24/7 at the desired resolution and fps. Another option is to record at a certain (usually lower) resolution, and when VMD triggers an alarm from the camera, the parameters for recording change (boost, usually to a higher quality). A third option is to trigger the system to record *only* upon VMD. All these are setup in Recording Management in ViconNet.

Camera Configuration

Stream Configuration

The ViconNet system and the camera should be setup and connected before beginning this procedure. Review the requirements for the particular installation to determine whether 24/7 recording is required (with or without boost upon motion) or whether just recording upon motion will suffice.

Note:

The 24/7 method should be used if constant recording or prealarm is required.

The video streams must be configured before any recording (and motion detection) can be set up. These cameras provide for using multiple-stream configuration, which may be required for certain installations.

Select the *setup* tab; now select the *streams* tab.

Select
Video Stream and
Settings (1-3)

The screenshot shows the camera configuration interface for an IQ761N IQEYE3206BB camera (Version V4.1/078(141126)). The interface has a top navigation bar with tabs: live, setup, window, network, security, event, DTS, i/o, IQaccess, and applications. The 'setup' tab is selected. Below this, there are sub-tabs: basic, focus, advanced, exposure, and streams. The 'streams' tab is selected, and a 'stream settings' panel is open on the right. This panel contains the following settings:

Parameter	Value
stream	stream 1
codec	h264
resolution	720p (1280x720)
framerate	15
bitrate mode	vbr
video bitrate (kbps)	1500
rotate clockwise	0

Below the video preview window, there is a 'Streams' section with the following information:

- Stream 1: h264 720p 15fps 0deg
- Stream 2: jpeg 720p 15fps 0deg
- Stream 3: h264 480p 15fps 0deg

A 'restore defaults' button is located at the bottom left of the interface.

Notes

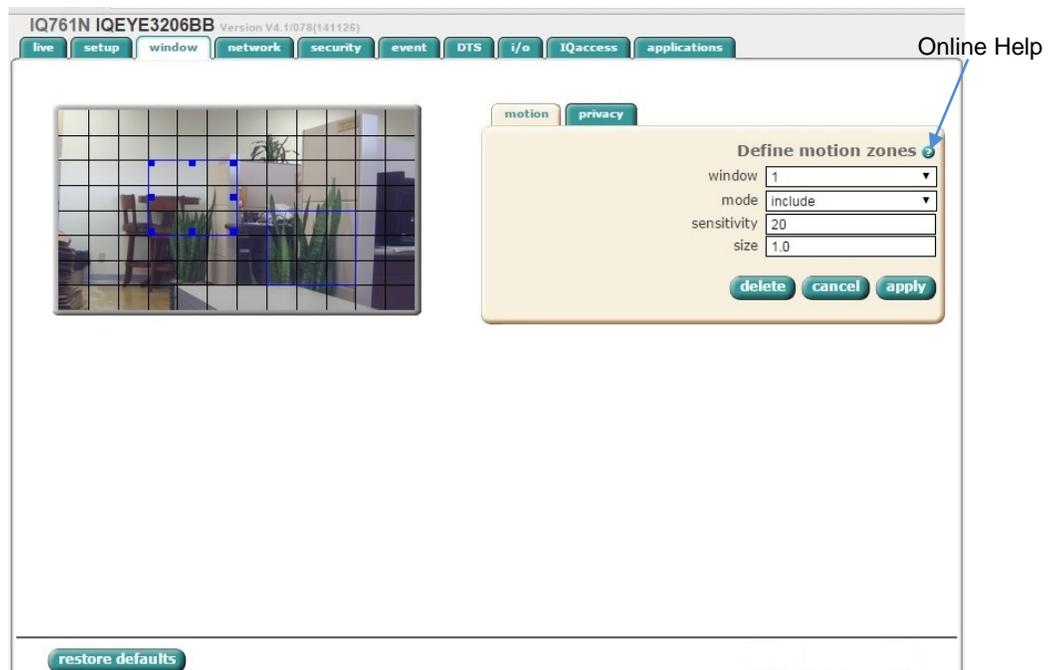
Three streams are available on these cameras. When adding a new camera (in its factory default state) to the ViconNet VMS, it will be set up as follows: Stream 1 is set for the maximal resolution the camera allows at top fps for that stream. Stream 2 is set for VGA/D1 at top fps for that stream. Stream 3 is set for none.

The Frame Rate (fps) can then be set. Note that both stream 1 and 2 can be set for 30 fps.

Even if only 24/7 recording is being set up, it is recommended to keep streams 2 and 3 with the default parameter, so it can be used by the display.

Setting up Video Motion Detection from the Web Browser

From the *windows* tab, select the *motion* tab. The *Define motion zones* screen displays. Note that motion detection is set up *only* on the stream that will be associated with the VMD macro. Refer to the online help (?) for the specific camera for details.



window: To choose the boundaries of a window, use the "window" drop-down menu to choose which window to configure. The selected window has its corners marked with solid squares. If no window is marked, left click+HOLD at the point on the image where the top-left of the window will appear. Then drag to where the bottom-right of the rectangle should be positioned. Then release the left click button. If a window is marked, left click+HOLD on a corner or side of a window to move that corner or side. Drag it to the new desired location, and then release the left click button. Left click+HOLD in the center of a window will allow the position of the window to

be moved without altering its size. A new window can be started by clicking outside the existing window. The click will specify where the top-left of the window appears. Drag to the bottom-right and release the mouse button.

mode: For each window, choose whether its interior is to be included or excluded (or if that motion window is to be disabled) from consideration by the motion detection algorithm. The algorithm will use every pixel that is in an included window but not in any excluded windows. Exclude windows are drawn in red. Include windows are drawn in blue.

For each included box set the **sensitivity** and **size** values.

sensitivity: Sensitivity: specifies how much a pixel value must change in order for that change to be a motion trigger. Sensitivity values range between 0 and 255. Lower values increase sensitivity and higher values decrease it. A sensitivity value of 255 will only trigger with a change between absolute black and absolute white. Sensitivity values under 10 are not recommended as they often trigger from imager noise even when no motion is visible to the eye.

size: Range is 0 to 100 (default = 1). Specifies what percentage of the pixels in a box must change (by the sensitivity) in order that "enough" change has occurred to trigger motion detection.

When setup of the Motion window is complete, click *apply*.

The next step is setting up Recording Management that defines what happens when motion occurs. Remember that recording is not available on a Workstation, only on an NVR or DVR.

Using Recording Management in ViconNet

After the streams are configured through the Web Browser, recording options are setup from ViconNet's Recording Management screen.

Note

This step is also required when setting up VMD alarms that will change the recording parameters upon motion.

The cameras are delivered, by default, set to use two streams for both display and recording purposes. If recording is just required 24/7 or to start only when motion is detected, it utilizes one stream with the desired parameters. Depending on the required recording scheme, it may utilize more than one video stream. Some examples follow after setup.

The motion recording options are:

- Record at a certain resolution and fps and switch to a higher resolution and/or fps on motion event
- Record at a certain resolution at low fps while viewing the same resolution at high fps

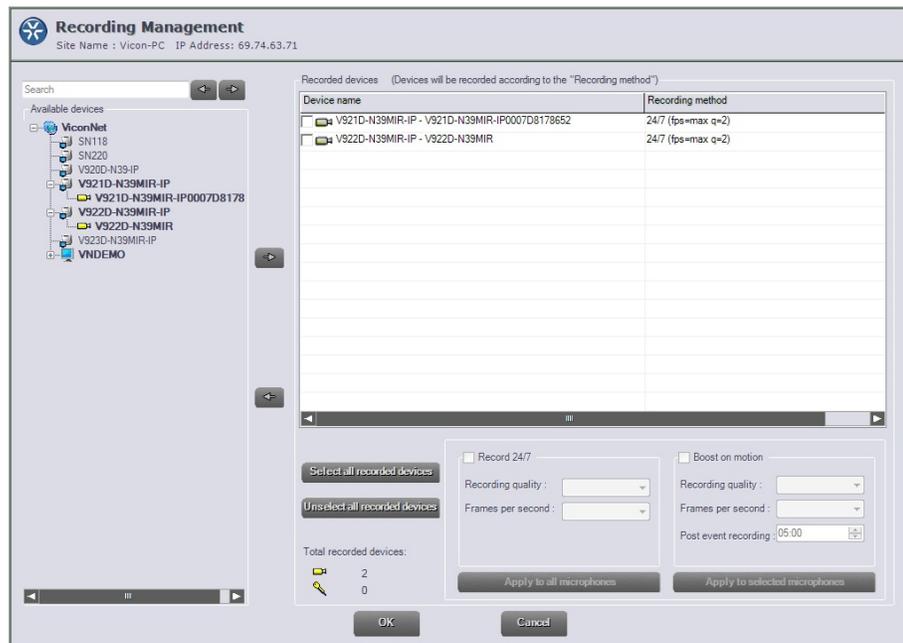
Recording Management Setup

The ViconNet system enables you to configure recording management, which allows the system to record the selected connected cameras and/or microphones continuously (24/7), to record 24/7 and then boost upon motion, or to record only upon motion.

Configuring recording management consists of selecting the cameras and/or microphones that will be recorded and selecting the recording settings.

To configure recording management:

1. From the ViconNet *Main* window, click . The *Setup Site Selection* window is displayed, showing a list of all currently connected transmitters and Workstations.
2. Select the site name for which you want to configure automatic recording and click . The *System Settings* window is displayed.
3. Click . The *Recording Management* settings window is displayed.



4. The Available devices list displays all camera/microphones on the system. Select the required devices to be configured for recording. Either drag the device into the Recording devices list or highlight it and click the  (add icon). From here each device can be configured. To remove a device from the list, highlight it and click the  (remove icon).
5. Click the device in the Recording device list to select it. Each device can be configured to record 24/7 (default), to boost on motion or to record only when there is a motion alarm, by deselecting the Record 24/7 checkbox. Each device can be configured individually. To select multiple devices, check the checkboxes for all the cameras included to apply these settings to, and then click the *Apply to the selected cameras* button; click *Apply to all cameras* if they are all to have the same configuration (the camera highlighted blue settings will be applied to those with the checkboxes checked).

Note

When recording on motion or boosting on motion, the motion settings must first be done from the camera browser.

6. When configuring Record 24/7, select the Recording quality number from the list (Q number 1-8, where Q1 is the highest quality). Then select the Frames per second (fps).
7. When configuring Boost on motion, check both the Boost on motion and Record 24/7 boxes. Select the Recording quality number from the list (Q number 1-8, where Q1 is the highest quality). Then select the Frames per second (fps). Select a time for Post event recording (minutes:seconds). Highlight the minutes/seconds and click the up/down arrow to change the value.

Notes on setting up streams

In the setup of the 24/7 recording only, define recording at Q1, the better stream. If boost required, the 24/7 recording will typically be set to Q8, the lower stream and on VMD switch and record the camera at a different resolution and/or fps by defining recording at Q1, the better stream.

For VMD, the boost on motion is configured to tell the NVR what to do in the case of a VMD alarm.

The cameras have the ability to define two H.264 streams with the same resolution and different FPS, for example, Stream 1 – 1080p @ 30 fps; Stream 2 – 1080p @ 5 fps. In this way, normal recording can be of Stream 2 (Q8, lower stream) and a motion event can cause ViconNet then to record Stream 1 (Q1, higher stream).

Stream 2 can be the same or lower resolution than the Stream 1; the fps of the Stream 2 is independent of the fps set in the Stream 1 (up to the total fps the camera can provide at each combination of resolutions). Bear in mind that using the high resolution on both streams does affect on the system display resources.

8. If it is desired to only record when motion occurs, deselect Record 24/7 and the Boost on motion fields screen will change to Record on motion only. Select the Recording quality number from the list (typically Q1). Then select the Frames per second (fps). Select a time for Post event recording (minutes:seconds). Highlight the minutes/seconds and click the up/down arrow to change the value.
9. When configuration is complete, select OK. The configuration screen will close. A message will display that this screen will time out if left idle for too long. Be sure to save settings.

Examples of VMD Alarms

Example 1

- A camera is only recorded when motion is triggered.
 - A Workstation is viewing the camera as needed
 - The camera VMD is set to generate an alarm on motion
 - On the NVR, the Recording Manager will start recording on the NVR at the selected quality

Note: There is no pre-alarm at all in this case. This does not require the 24/7 recording; this alarm instructs it to record the camera only upon a motion alarm

Example 2

- A camera is recorded at a low fps and switches to a higher fps upon motion.
 - Requires two video streams set up in the camera
 - The NVR is set to record the camera at lower frame rate on video stream (lower fps stream)
 - The camera VMD is set to generate an alarm on motion
 - On the NVR, the Recording Manager will record the higher fps video stream for a predetermined time

Note

There is no higher fps pre-alarm option for this; any recording prior to the VMD alarm is at the low fps.

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