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VMD Guide for V960 Series Cameras

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Guide for Configuring and Using Video Motion Detection on V960 Series Cameras

This guide provides a step-by-step procedure for using the Video Motion Detection feature of V960 cameras with ViconNet (version 6.5 and higher). It assumes an understanding of ViconNet and the cameras. Refer to the ViconNet® and camera manuals for detailed information.

The Video Motion Detection (VMD) feature activates an alarm due to activity beyond specified sensitivities in preconfigured regions of interest (ROIs) in the camera view area. Since initial setup and configuration of V960 cameras are not done through VNSetup software but through a Web Browser interface, the support for a VMD alarm event is generated by the camera and is defined and setup in the camera configuration. The VMD message is sent from the camera and received in ViconNet as an external alarm; it can then be used to trigger a macro.

These cameras support both open (video stream between the camera and PC must be established and kept open in order for alarm to be received) and closed (camera is capable of sending the alarm even if a video stream is not open) stream VMD. Cameras that support a closed stream of video for VMD do not have to be running to trigger the alarm. However, each camera that has VMD configured must be connected to be viewed or recorded at least once before the alarm mechanism will work. In some cases, a “handshake” macro must be configured to create this “handshake” and to ensure that the alarm will be re-activated and triggered even if the NVR reboots, shuts down or fails. The closed stream method saves storage but does not provide the prealarm option. An open stream video should be used if constant recording, prealarm or control of fps is required.

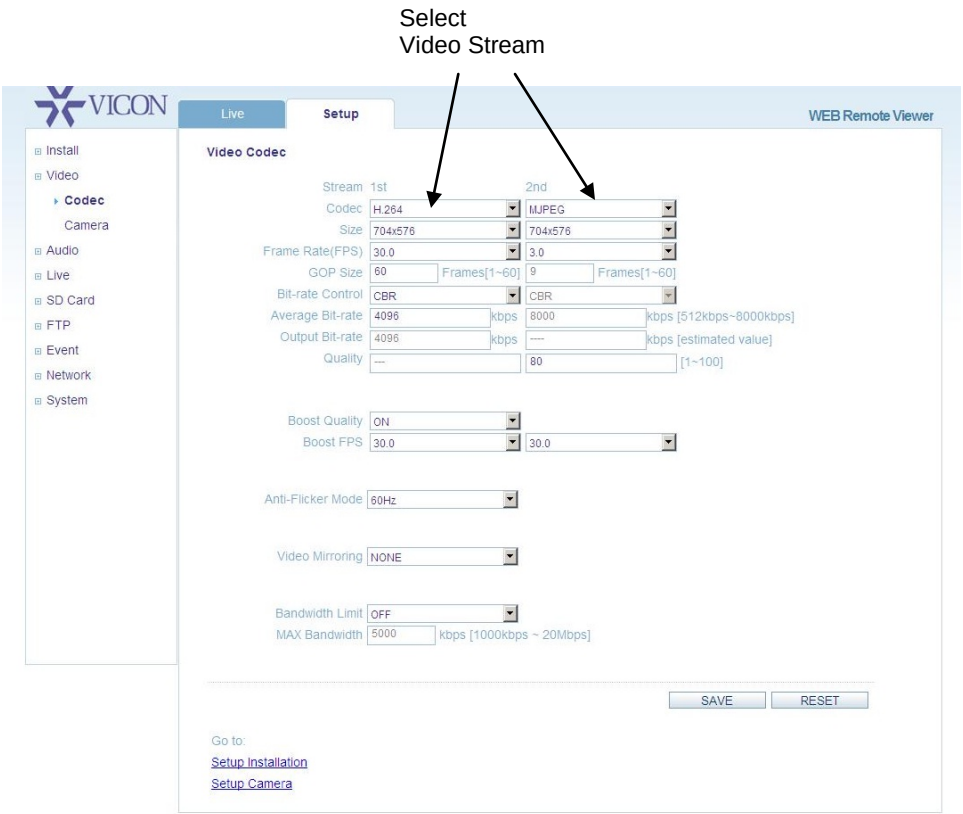
Camera Configuration

This section explains how to configure the Vicon V960 cameras for video motion detection (VMD feature) to work properly. The ViconNet system and the camera should be setup and connected before beginning this procedure.

V960 Series Cameras

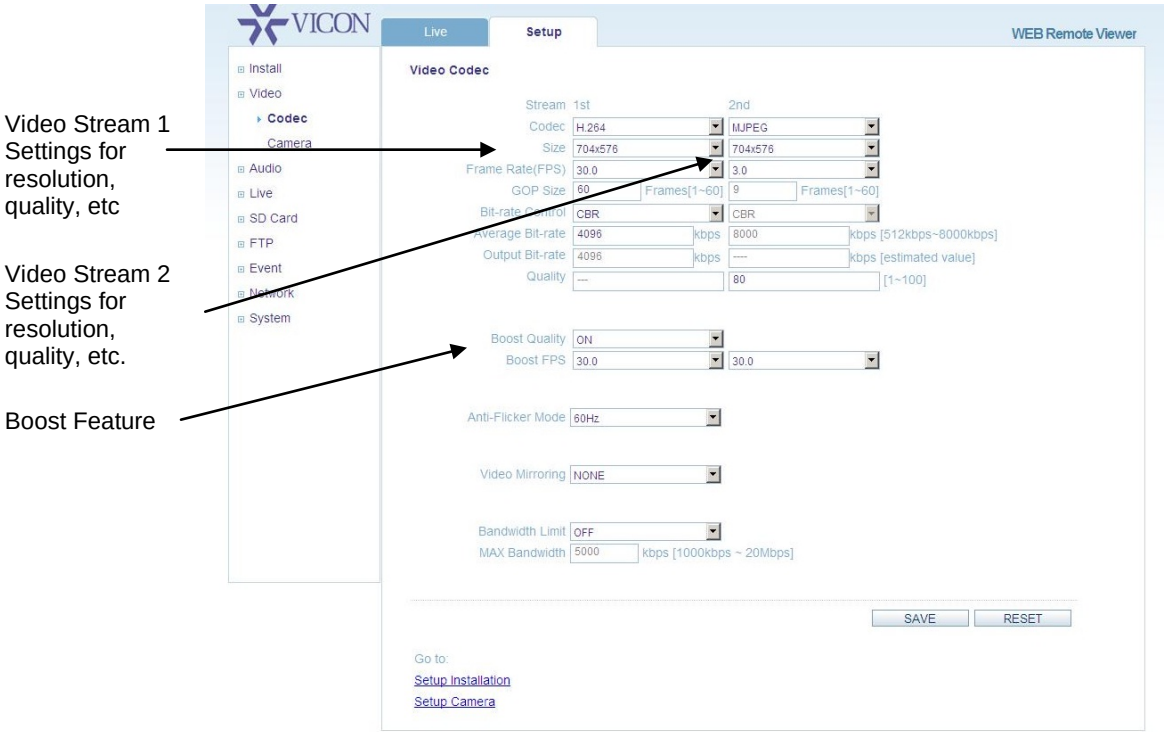
These cameras can be configured with either open or closed stream video. Review the requirements for the particular installation to determine which way is best. Additionally, these cameras provide for using dual-stream configuration, which may be required for certain installations.

Select the *Setup* tab on the *Live* screen. Click the *Video* tab on the left side of the screen and select *Codec*; the following screen displays.

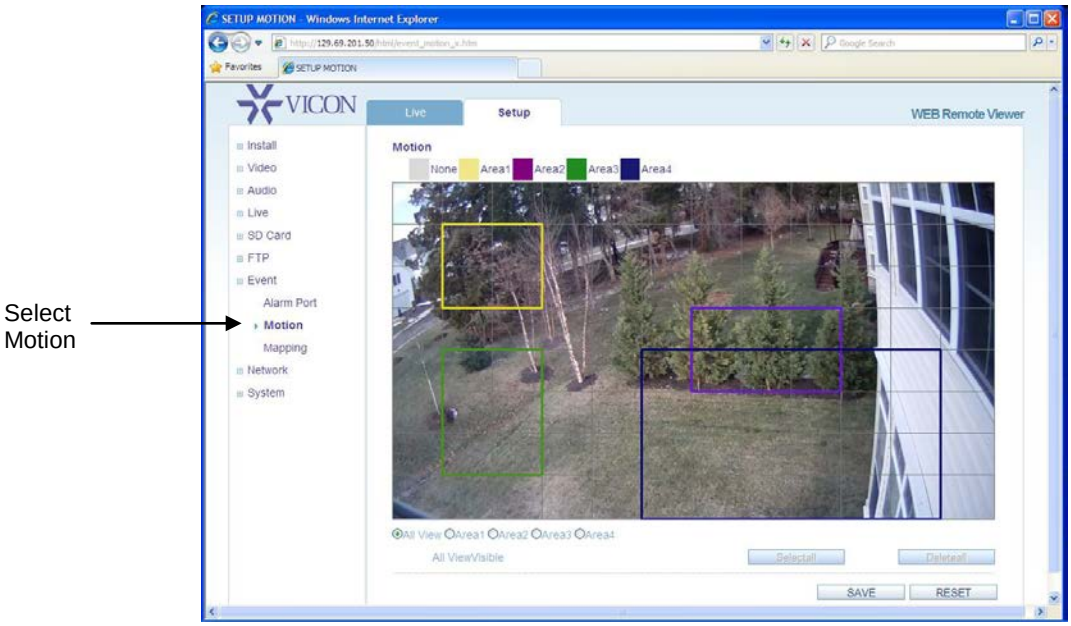


Depending on the required operation, it may be necessary to configure more than one video stream. If recording is to be set to start only when motion is detected, it is only necessary to set up one stream with the desired parameters. If it is required to have the system record at a certain fps all the time (usually lower rates), and switch to a different fps on motion (usually a higher rate), the Boost feature in the camera can be used (minimum camera firmware 1882.96). The Boost feature is setup in the camera web browser and allows the camera to run in one selected fps and automatically change to a different fps upon motion detection.

Additionally, if it is required to have the system record at a certain resolution and quality all the time (usually lower one), and switch to a different resolution and quality on motion (usually a higher one), the two streams need to be configured with the different resolutions. Note that when the ViconNet macro is set up, it distinguishes between the different streams from the camera by resolution; that is why each stream must be set to a different resolution. Refer to the camera manual for details.



From the *Event* tab, select *Motion*. The following screen displays. Note that motion detection is set up *only* on the stream that will be associated with the VMD macro.



- Click Area 1-4 button for the area to be defined and select the corresponding area for motion detection by clicking the relevant color box.

- Click the box on the video image where the motion area is to be located and adjust the size of the area by dragging the outlined box across and down in one motion.

- Adjust the Object Sensitivity from the drop down list, 1-10. The Sensitivity list only displays when an area is selected; it is not visible when All View is selected. Use the Selectall button to have the entire scene in the selected area. Deleteall is available to eliminate all selected areas.

- Click **Save**. When motion occurs in the defined area, a red dot appears on the Live video

Refer to the section on Creating Macros for the next step.

Configuring ViconNet

Creating Macros

The next step in supporting VMD alarms is to create a macro that defines what happens when motion occurs. After the macro is defined it is then linked to the external alarm of the NVR/Workstation. Remember that recording is not available on a Workstation, only on an NVR or DVR. Below are three examples.

Examples of VMD Alarms

Example 1

- A camera is recorded at a low fps and switches to a higher fps upon motion.
    - The NVR is set to record the camera at MAX fps
    - The camera VMD is set to generate an alarm on motion
    - The Boost feature on the camera is set to ON and the lower and higher fps are set
    - On the NVR, the macro will continue to record, but now at the higher fps. The whole fps change is done by the camera.

Note: There is no higher fps pre-alarm option for this; any recording prior to the VMD alarm is at the set lower FPS

Example 2

- A camera is recorded, and display is triggered by motion.
    - The NVR is set to record the camera at desired fps
    - The camera VMD is set to generate an alarm on motion
    - On the NVR, the VMD alarm trigger runs a 2nd macro that will start display of the camera on the desired Workstation
    - Note if this can be combined with the Boost feature described in Example 1

Example 3

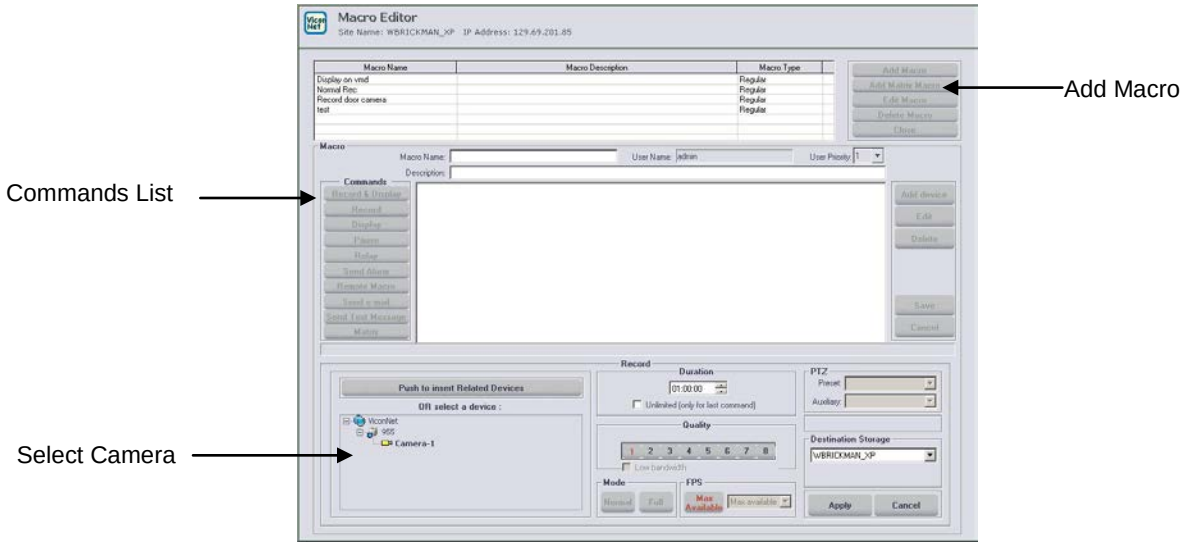
- A camera is only recorded by motion.
    - A Workstation is viewing the camera as needed
    - The camera VMD is set to generate an alarm on motion
    - On the NVR, the VMD alarm trigger runs a macro that will trigger recording on the NVR

Note: There is no pre-alarm at all in this case.

When VMD is on a camera that is recording (open stream configuration), the recording macro is created first. The VMD trigger is a second macro.

To create a macro:

- From the ViconNet *Main* window, click Setup. The *Setup Site Selection* window displays.
- Select the site (NVR/Workstation) for which the macro is being defined and click Select. The *System Settings* window displays.
- Click Macro Editor. The *Macro Editor* window displays. In examples 1 and 2, the camera is recording before the VMD trigger, so a recording macro must be created. Click Add Macro. The middle section of the screen displays.



- Fill in a logical name for the macro and a description if desired.
- Select the cameras that are being configured from the device list.
- Select the first command from the Commands list; in the example, select Record. The bottom portion of the screen displays.
- Fill in all pertinent fields for the command. The V960 cameras will not allow fps selection and the user will define the quality requested (Q1 for highest available stream, Q8 for lowest). In example no. 1, define recording at the desired resolution, typically Q1 for the higher quality stream, and for example no.2, recording at Q1 for the higher rate stream; remember this must correspond with the camera stream setting.
- A macro can have multiple commands; repeat command selection if required for the macro. The macro executes in the command order.

- Click Apply and then Save.

In certain cases, a second macro is now configured to tell the NVR what to do in the case of a VMD alarm; as in the example, to display video from the camera. The third example does not require the first macro; this alarm macro instructs it to record the camera upon a motion alarm.

- Follow the previous steps to create the macro.
- To setup example 1: Nothing else needs to be done. The main macro will record all the time and the camera will increase FPS where motion is sensed.
- To setup example 2: From the Commands list, select Display. This allows the video to display on the local Workstation/NVR. If it is required that the video display on a different unit, create another macro using with the Send Alarm command and select the **Destination** of the video.
- To setup example 3: From the Commands list, select Record. Select the recording stream for the Record command (usually Q1).
- From the device list, select Push to insert Related Devices. This links the camera to the external alarm and uses the camera name as shown in the alarm for the macro to work (eliminating the need to specify which camera is for this macro).

Note: This method has one limitation. A macro that runs as a result of ANY alarm will always trigger the same response (for example display the alarmed camera) and does not allow launching different macros for different alarms. If there is a requirement to do so, you will need to utilize ViconNet Events Management (see ViconNet manual).

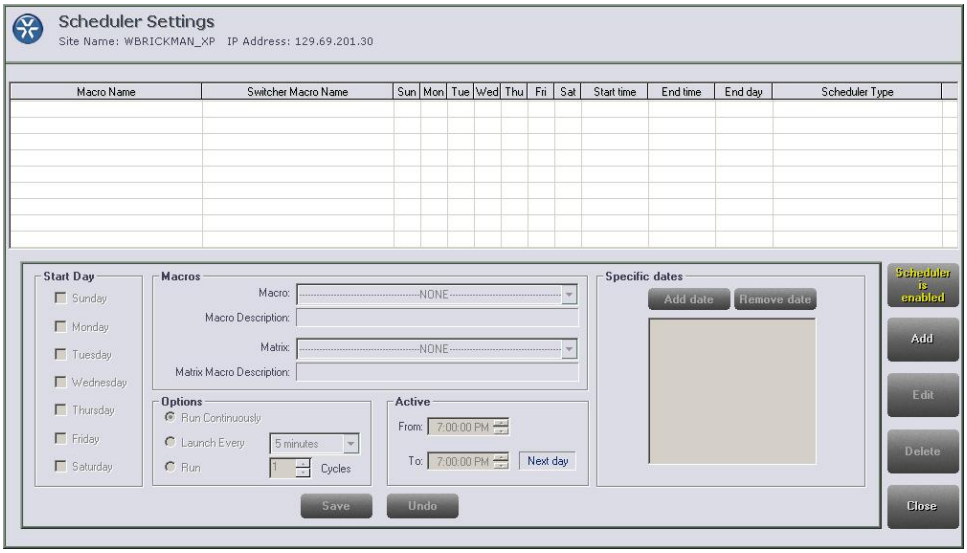
A camera that is running closed video requires a “handshake” macro to assure the system recognizes the alarm. Running this macro on the camera for 10 seconds every hour will assure that the VMD will be triggered even if the NVR restarted or lost communication to the camera at some point. To create the “handshake” macro:

- Follow the previous steps to create the macro.
- Configure a macro to record the camera every hour for 10 seconds so that the system maintains recognition of the camera.

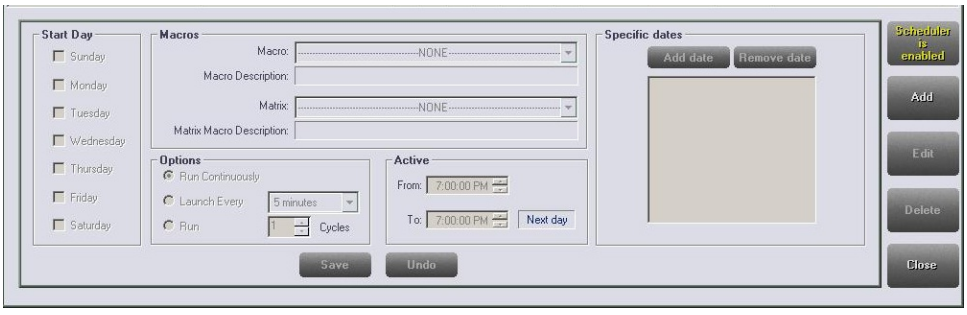
Configuring the Macro Scheduler

Next, a schedule needs to be created to run the 24/7 recording macro and/or the "handshake" macro according to your requirements, including on which days of the week, as well as a start time and end time for each day. Refer to the Creating Schedules section in the Configuring ViconNet chapter in the latest ViconNet manual, XX113.

- From the ViconNet Main window, click Setup. The *Setup Site Selection* window displays.
- Select the site name (NVR/Workstation) for which the alarm is to be defined and click Select. The *System Settings* window displays.
- Click. Schedule for Macros. The *Scheduler Settings* window is displayed, showing any currently defined schedules in the system.



- Click Add. The *Scheduler Settings* window is enabled.



- From the **Macro** dropdown list, select the macro for which you want to create a schedule. The defined macro description is displayed automatically in the **Macro Description** field.

- Select the days of the week that you want the macro to run from the **Sunday - Saturday** checkboxes. To select a specific date for the macro to run, click Add date in the **Specific dates** area. A calendar is displayed. Select the date/s required by clicking in the calendar. For the recording and “handshake” macros, every day of the week should be checked.

- In the Active From and To fields, define the start and end time (in HH:MM:SS format) for the macro to run on each of the selected days, as follows:

  - Select the required time segment and then use the up/down arrows to scroll to the required value, OR select the required time segment and then use the keyboard to type in a numerical value. If the Active From and To times are the same, the schedule will be for a 24-hour period; this is used for the recording and “handshake” macros.

- In the **Options** area, select a run option for the macro; for the 24/7 recording (examples 1 and 2), select Continuously; for the “handshake” macro, select Launch Every and select 1 hour.

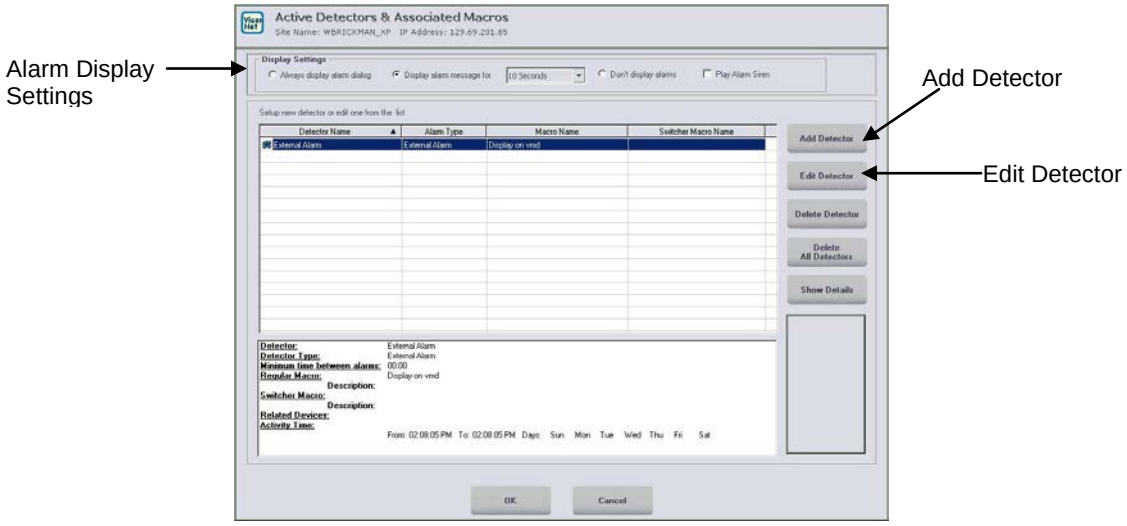
- Click Save .

Configuring the External Alarm

The final step is to configure the external alarm on the Workstation/NVR to activate the macro upon receiving the VMD alarm. Each NVR/Workstation has 1 default **External Alarm** that can be edited to receive the VMD alarm from the camera and execute the macro.

To define the external alarm:

- From the ViconNet Main window, click Setup. The *Setup Site Selection* window displays.
- Select the site name (NVR/Workstation that has the ability to receive alarms) for which the alarm is to be defined and click Select The *System Settings* window displays.
- Click Alarms . The *Active Detectors & Associated Macros* window displays.

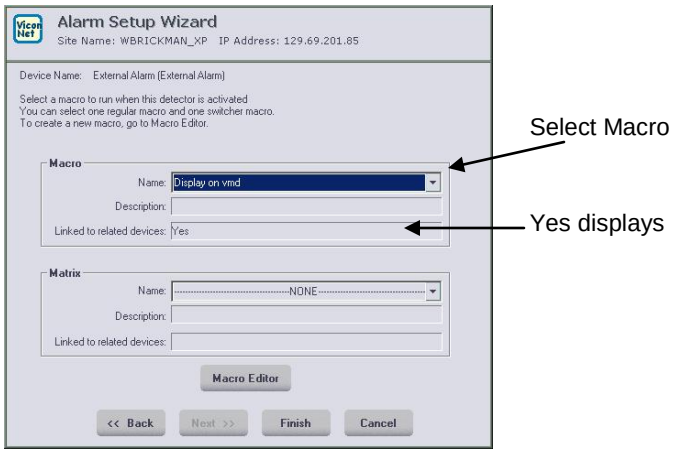


- Select the alarm display settings at the top of the screen.
- From the displayed list, select *External Alarm*. Click Edit Detector The *Alarm Setup Wizard* window displays.

Note: If the External Alarm has been previously deleted from the NVR/Workstation, click Add Detector. From the *Alarm Setup Wizard*, select **External Alarm** and Next >> Proceed with the steps for **Edit Detector** that follow.

- Define the time schedule for the macro in the *Alarm Activity Time* area; the default is 24 hours a day, 7 days a week. Press Next >> .

- From this *Alarm Setup Wizard*, select the macro previously created to be activated when the motion alarm occurs (in examples 2 and 3). *Linked to related devices* should say **Yes**. If the macro was not created, or needs to be changed, it can be done by clicking Macro Editor Follow the procedure for creating a macro. Click Finish



- The external alarm setup link is displayed in the list in the *Active Detectors & Associated Macros* window. Click **Show Details** to see complete information on alarm setup.

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