

Title:	VCA				
Date:	10/20/2014	Version:	1.0	Pages	
Product:	PRO Series IP cameras with optional serial				
Action Required:	Information only				

OVERVIEW

HikVision **4 SERIES** cameras are called **SMART CAMERAS**. This is due to the built-in video analytics features, such as:

- Facial Detection (Please note: NOT Facial Recognition)
- People Counting
- Line Crossing
- Intrusion Detection

2 SERIES (Value Series) cameras also have video analytics capabilities with the latest firmware **v5.2.0** release. The value series cameras have only two (2) types of analytics:

- Line Crossing
- Intrusion Detection

The video analytics features are called **VCA** (Video Content Analytics).

So far the only NVRs that have the capability to record **VCA** events are:

- DS-90xxHWI-ST (960H Hybrid)
- DS-90XXHFI-ST (Real-Time Hybrid)
- DS-96xxNI-ST (NVR)
- DS-7716NI-SP/16 (16 channel Plug-n-Play NVR)

The **VCA** events need to be configured from the camera's web interface directly. The NVRs do not have the capability to make **VCA** changes.

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CONFIGURING VCA RECORDING

To configure VCA recording:

1. Add the camera(s) to the NVR
2. Configure the VCA detection in the camera(s)
3. Configure VCA recording in the NVR

ADDING THE CAMERA(S) TO THE NVR:

Please refer to the NVR's user manual or quick start guide to add the camera(s).

CONFIGURING THE VCA DETECTION IN THE CAMERA(S)

VCA detection can be configured from the camera(s)'s web GUI only.

To configure the VCA detection, log in to the camera by typing the camera's IP address into a web browser (**Figure 1**).

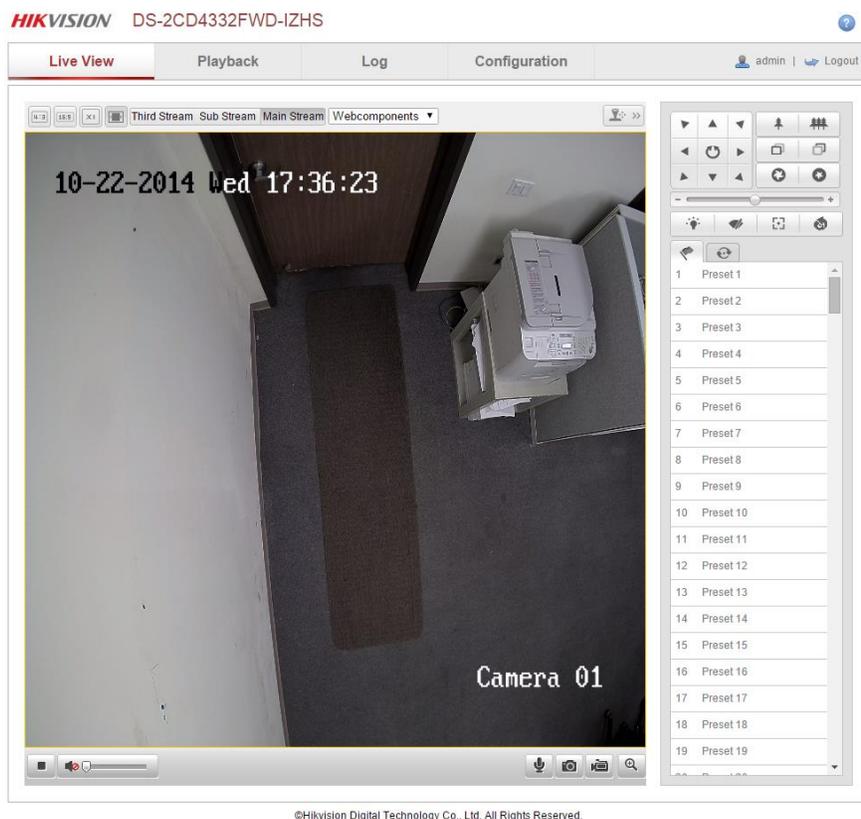


Figure 1

- 2 -

Hikvision USA, Inc.

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Email: techsupport@hikvisionusa.com Website: <http://www.hikvision.com>

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Proceed to “**CONFIGURATION**”→”**ADVANCED CONFIGURATION**” (Figure 2).

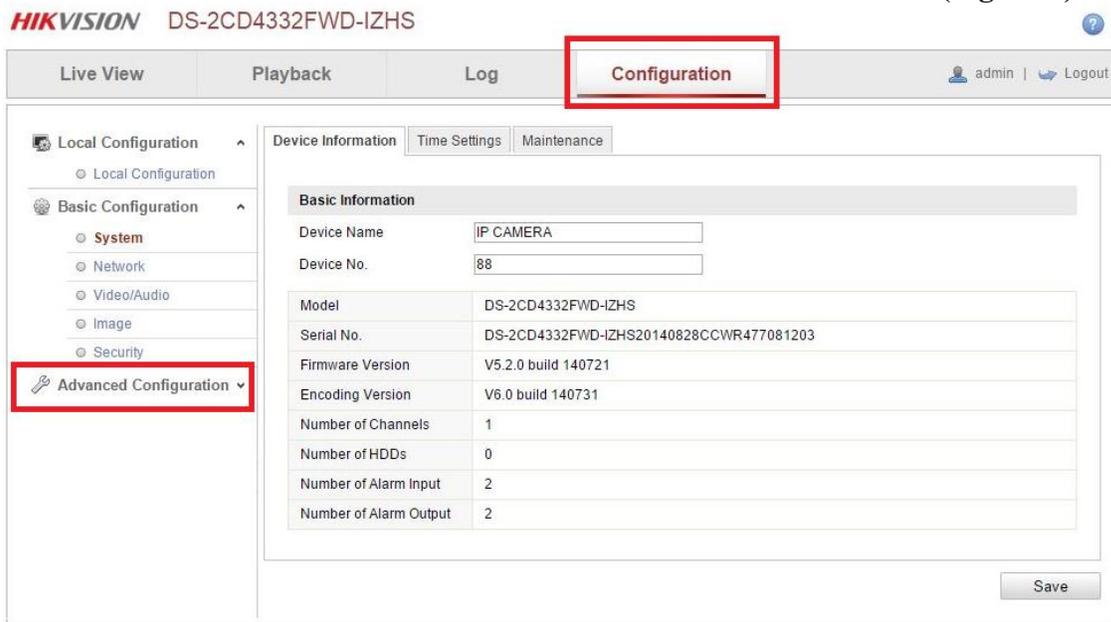


Figure 2

Go to “**EVENTS**” (Figure 3).

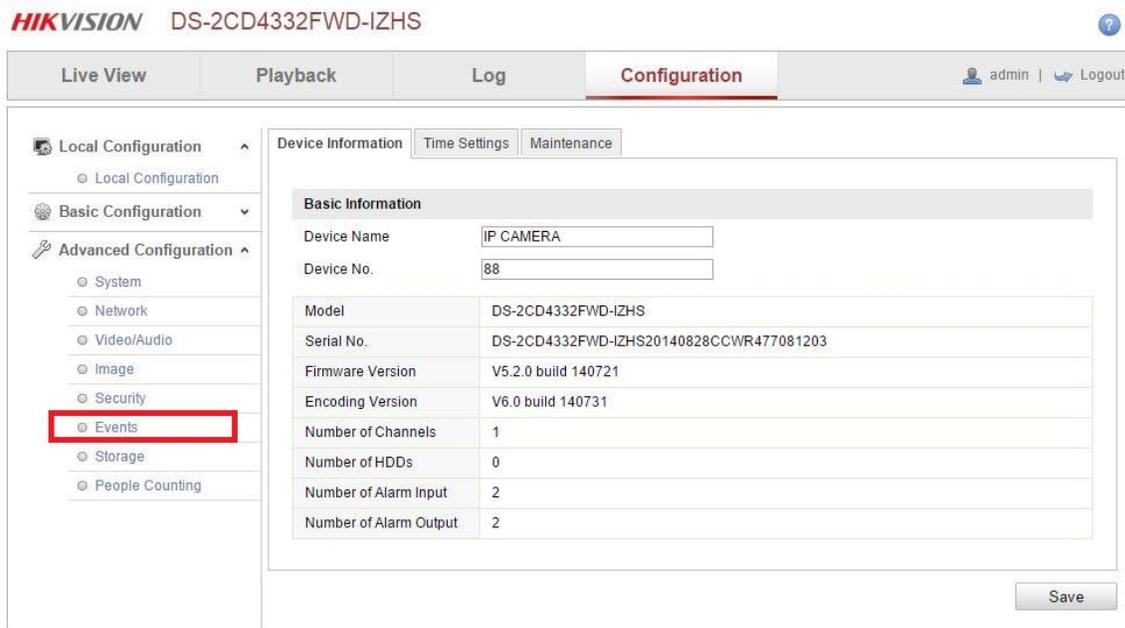


Figure 3

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Figure 3 shows the layout of the “EVENTS” menu.

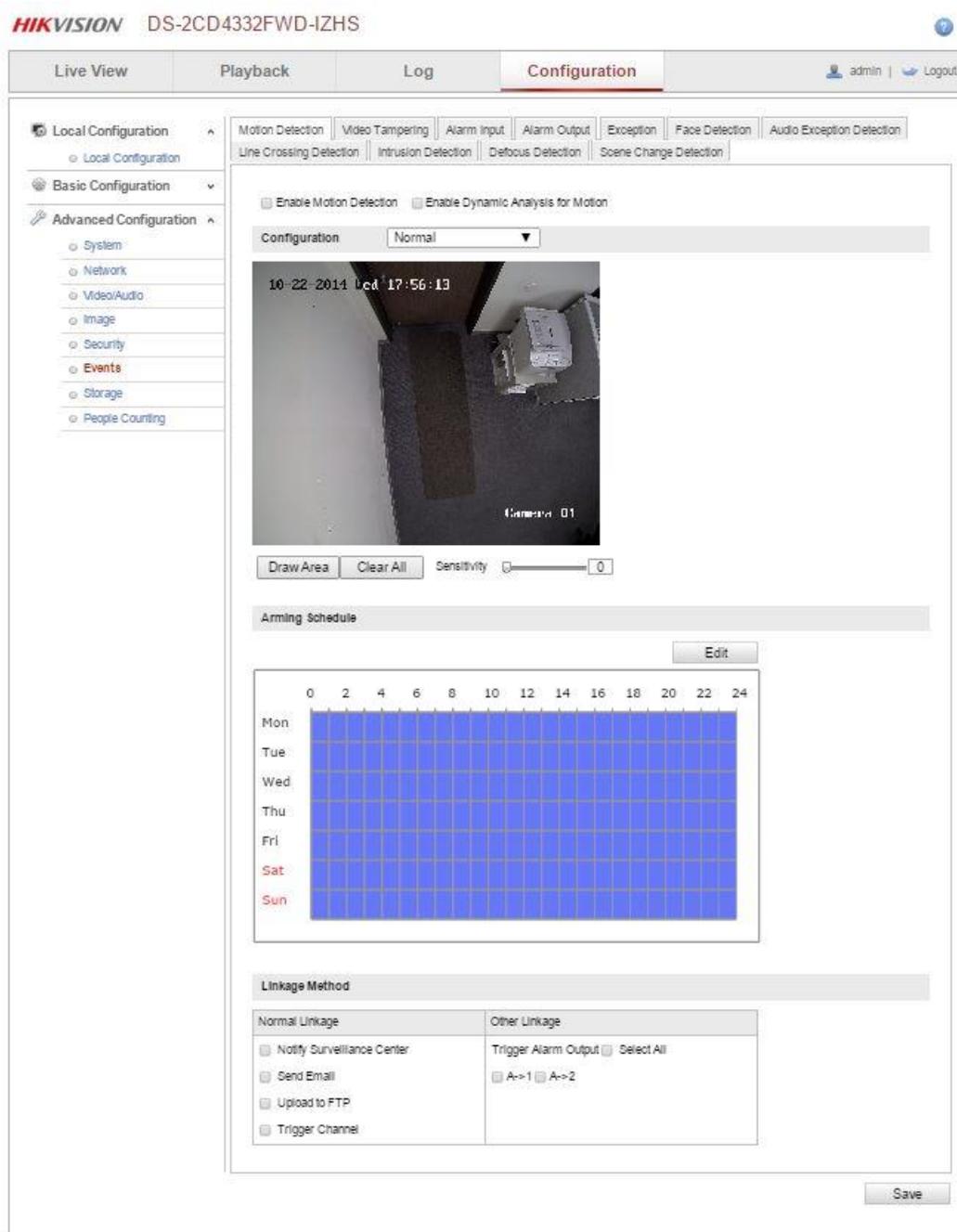


Figure 3

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1. Line Crossing Detection:

Line crossing detection is intended to filter unidirectional or bidirectional crossing of an imaginary line in order to narrow down search results (**Figure 4**).

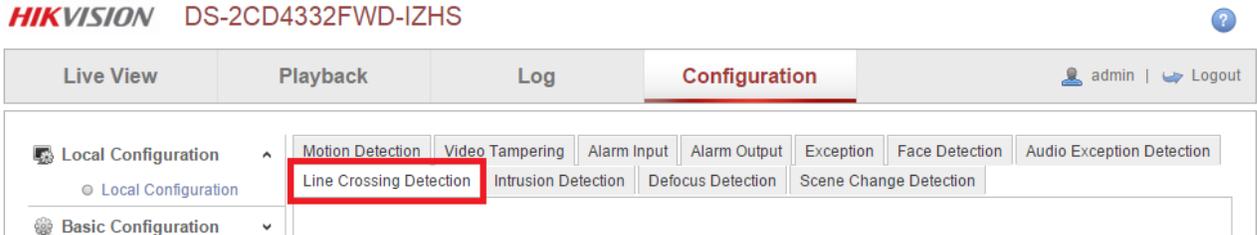


Figure 4

To set up “Line Crossing Detection” (**Figure 5**):

- Enable the **Line Crossing Detection** by checking the checkbox
- Click the “**DRAW AREA**” button to draw the line (to be crossed). Smart Series cameras can have up to 4 defined lines, the Value Series cameras- only 1 defined line.
- Set the direction of crossing. **A→B**, **B→A** or **A↔B**
- Set the sensitivity level (recommended 60-80).

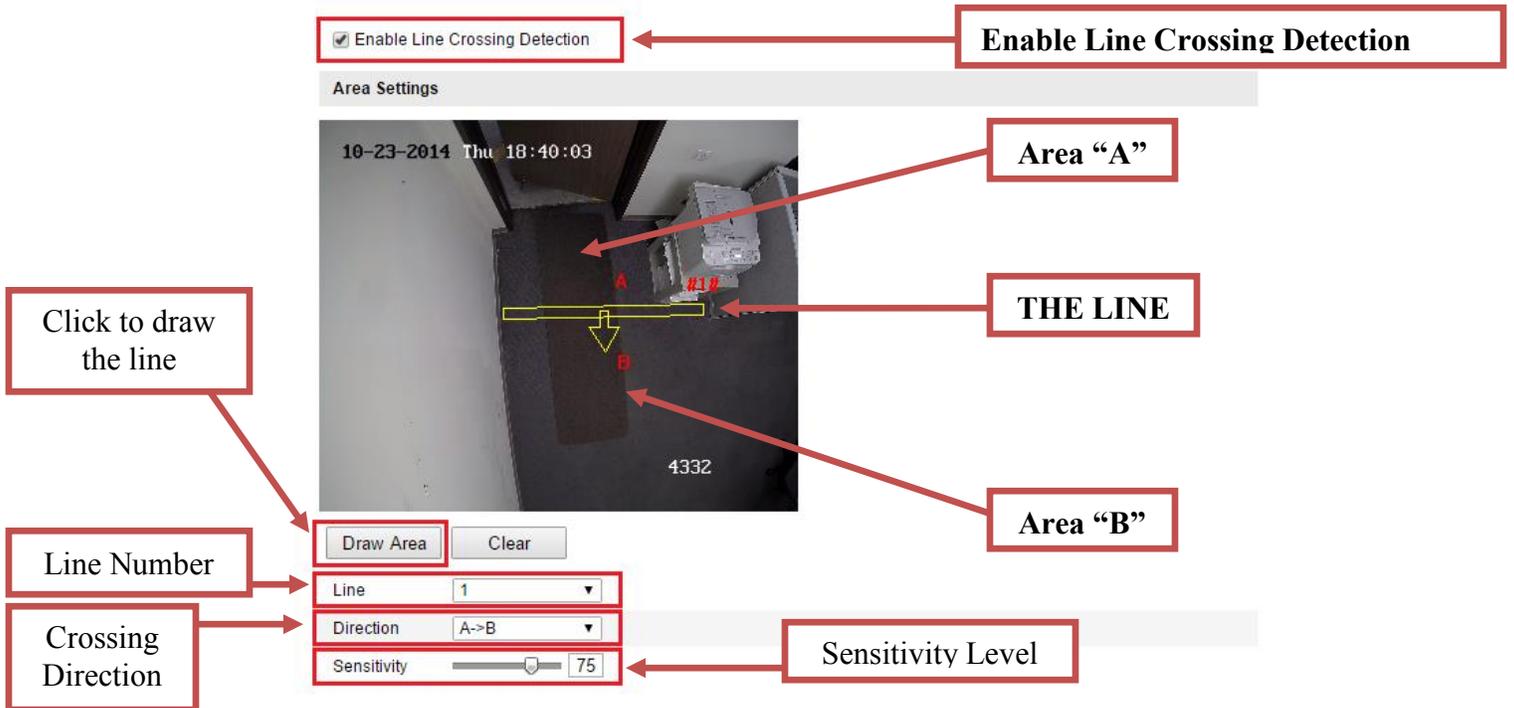


Figure 5 (Continues on the next page)

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- e. Set the Arming Schedule
- f. If needed, select “Notify Surveillance Center”/“Send E-Mail”/“Upload to FTP”/“Trigger Channel” or Trigger an alarm output

The image shows a software interface for configuring an Arming Schedule and Linkage Method. The 'Arming Schedule' section features a grid for selecting days and times. The 'Linkage Method' section has two columns: 'Normal Linkage' and 'Other Linkage'. Red boxes and arrows highlight specific options and callouts.

Arming Schedule

Grid columns: 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24

Grid rows: Mon, Tue, Wed, Thu, Fri, Sat, Sun

Callouts for Arming Schedule:

- Click to edit the detection schedule (points to 'Edit' button)
- Detection Schedule (points to the grid)

Linkage Method

Normal Linkage

- Notify Surveillance Center
- Send Email
- Upload to FTP
- Trigger Channel

Other Linkage

- Trigger Alarm Output Select All
- A->1 A->2

Callouts for Linkage Method:

- Check to enable alarm output (points to 'Trigger Alarm Output')
- Check to record onto the Micro SD card
*Not all models have a Micro SD slot
*Micro SD card is not included (points to 'Notify Surveillance Center')
- Check to upload still images to an FTP (points to 'Upload to FTP')
- Check to send E-Mail notifications (points to 'Send Email')
- Check to upload still images to an FTP (points to 'Upload to FTP')

Save button:

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Figure 6
Before crossing the line.
The line is **BLUE**

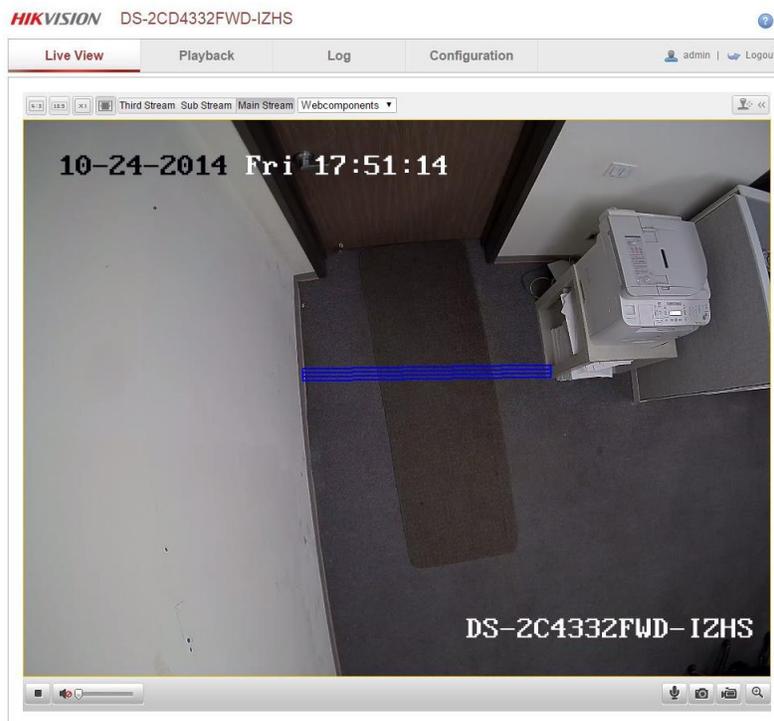


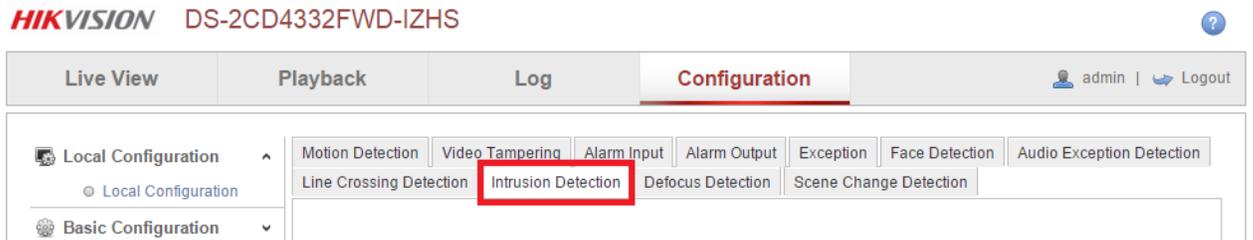
Figure 7
After crossing the line.
The line is **RED**



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2. Intrusion Detection:

Intrusion detection is intended to filter object entry into an imaginary area and staying there for a predetermined period of time in order to narrow down search results (**Figure 6**).



To set up “**Intrusion Detection**” (**Figure 8**):

- Enable the **Intrusion Detection** by checking the checkbox
- Click the “**DRAW AREA**” button to draw the area (to be intruded). Smart Series cameras can have up to 4 defined areas, the Value Series cameras- only 1 defined area.
- Draw the area by defining the vertices of a tetragon (square/rectangle....). After defining the 4th vertex- right-click to finalize the definition.
- Set the threshold (0-10 seconds). The threshold defines the amount of time required to distinguish intrusion from crossing
- Set the sensitivity level.
- Set the percentage (0-100%). Percentage defines the size of the object in comparison with the selected intrusion area.

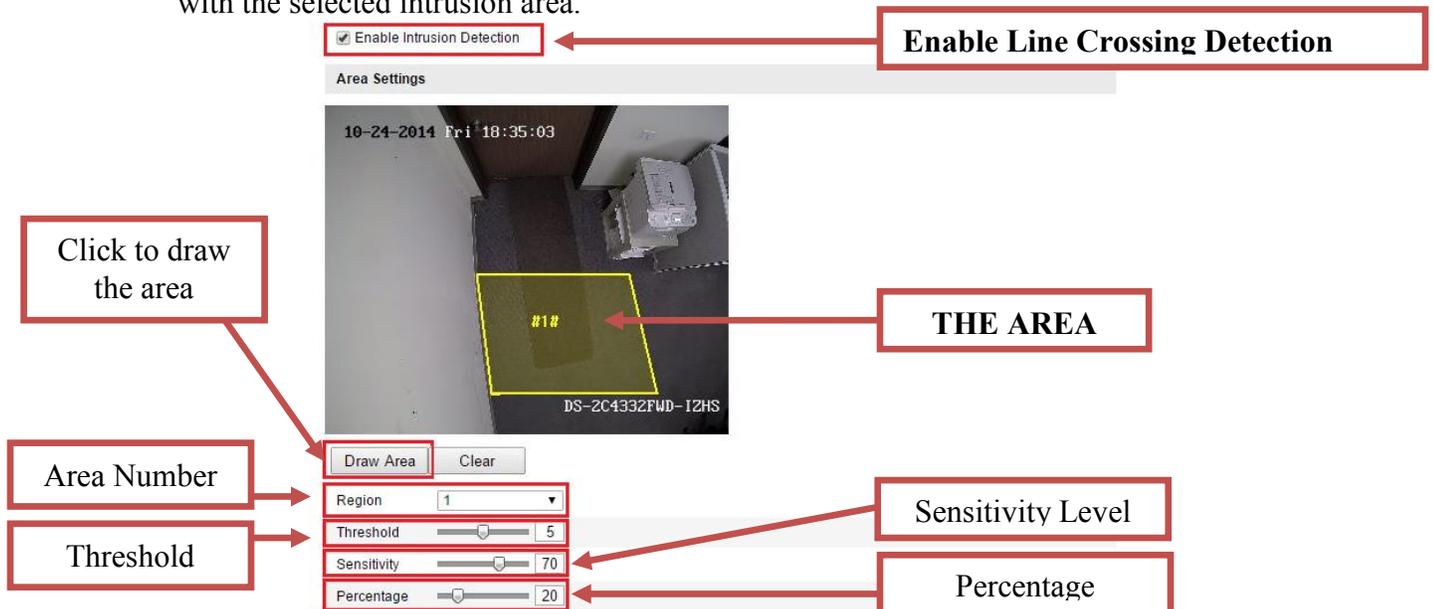


Figure 8 (Continues on the next page)

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- g. Set the Arming Schedule
- h. If needed, select “Notify Surveillance Center”/“Send E-Mail”/“Upload to FTP”/“Trigger Channel” or Trigger an alarm output

The figure shows two screenshots from a configuration interface. The top screenshot is titled "Arming Schedule" and features a calendar grid for days of the week (Mon-Sun) and hours (0-24). A red box highlights the grid, with an arrow pointing to an "Edit" button. A callout box says "Click to edit the detection schedule". Another callout box points to the grid itself, saying "Detection Schedule".

The bottom screenshot is titled "Linkage Method" and is divided into "Normal Linkage" and "Other Linkage" sections. In the "Normal Linkage" section, four checkboxes are highlighted with red boxes and callouts: "Notify Surveillance Center" (callout: "Check to record onto the Micro SD card *Not all models have a Micro SD slot *Micro SD card is not included"), "Send Email" (callout: "Check to upload still images to an FTP"), "Upload to FTP" (callout: "Check to send E-Mail notifications"), and "Trigger Channel" (callout: "Check to upload still images to an FTP"). In the "Other Linkage" section, the "Trigger Alarm Output" checkbox is highlighted with a red box and a callout: "Check to enable alarm output". A "Save" button is also visible at the bottom right.

Figure 8

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Figure 9
Before intruding the area
The area is **BLUE**

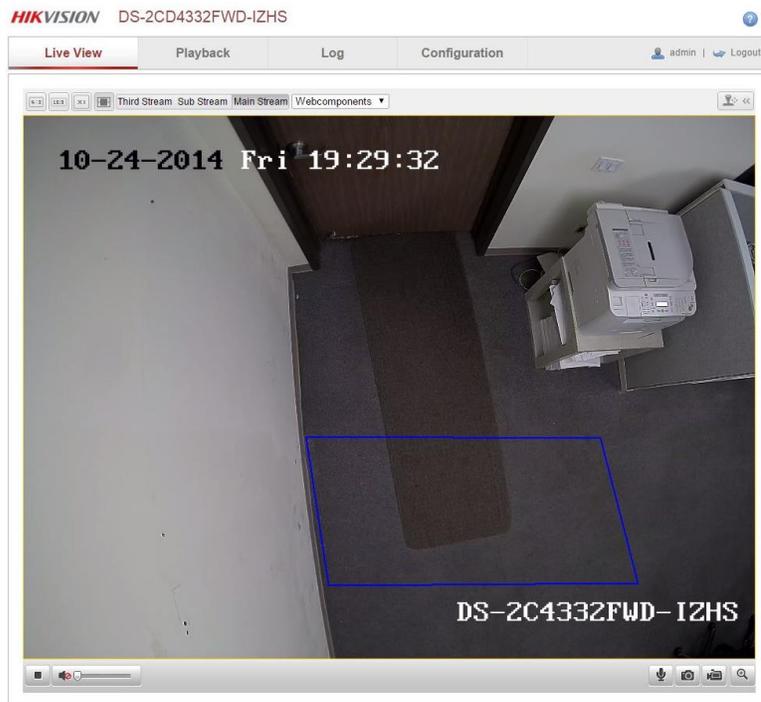


Figure 10
After intruding the area
The area is **RED**



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CONFIGURING DUAL VCA:

All the configurations mentioned above will be accessible directly from the camera(s) (if the camera(s) have a Micro SD slot and a Micro SD card has been installed. Micro SD cards are not included with cameras).

For the NVR to recognize these types of events, a feature called **DUAL VCA** has to be enabled in the camera(s).

To enable **DUAL VCA**:

- a. Go to Configuration.
- b. Go to **Advanced Configuration**→**Video/Audio**
- c. Go to the **Display Info. On Stream** tab
- d. Enable **DUAL VCA** (Figure)

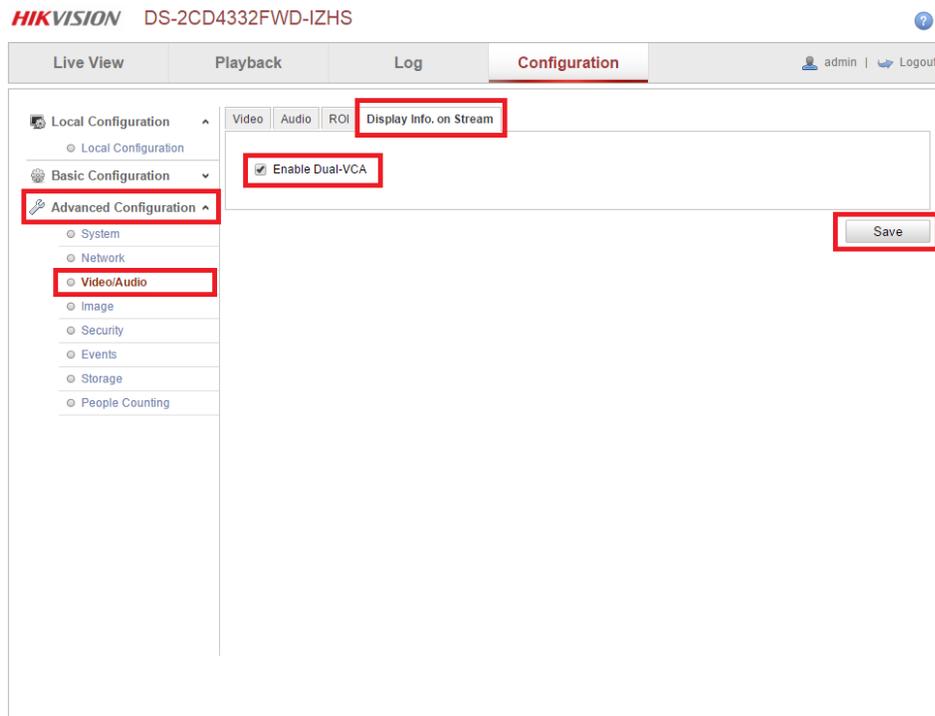


Figure 11

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CONFIGURING VCA RECORDING IN THE NVR:

After setting up the VCA detection in the camera(s), it is time to set up the recording. Go to **MENU→RECORDING CONFIGURATION (Figure 15)**.

Click on **VCA (pink)** and change the recording schedule to **VCA (Figure 16)**.



Figure 12



Figure 13

Please note, that if the recording schedule will be set to VCA, the NVR will only record VCA events and will ignore ordinary motion and alarm triggers. But because VCA is a type of an event and the recording schedule is set to **EVENT**, then the NVR will record ordinary events (motion and alarm) as well as VCA events.

After the Recording schedule is set, the VCA detection of the camera has to be enabled (just like motion detection). Go to **MENU→CAMERAS SETUP** then go to **VCA (Figure 17)**.

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Select the camera from the drop-down menu

Enable VCA Alarm

Set up E-Mail linkage, Schedule, PTZ linkage...

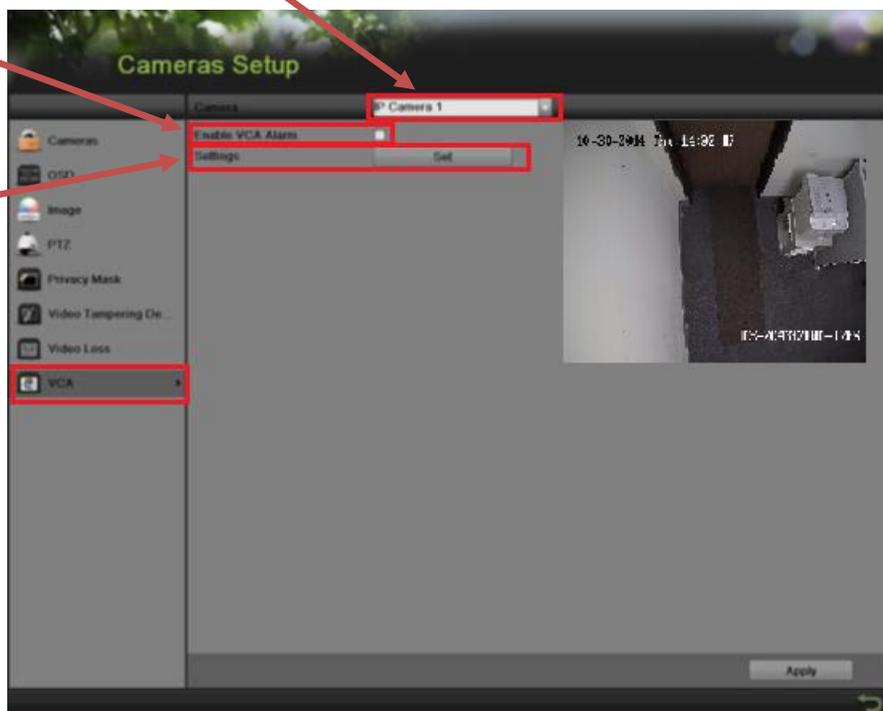


Figure 14

After the VCA has been enabled in the camera, the NVR will record upon VCA events.

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USING SMART PLAYBACK FEATURE

If the camera(s) with VCA features have been recording continuously or on an event schedule, the NVR provides a **SMART SEARCH** feature to locate the VCA events within the recording.

Go to **MENU→PLAYBACK (Figure 18)**.

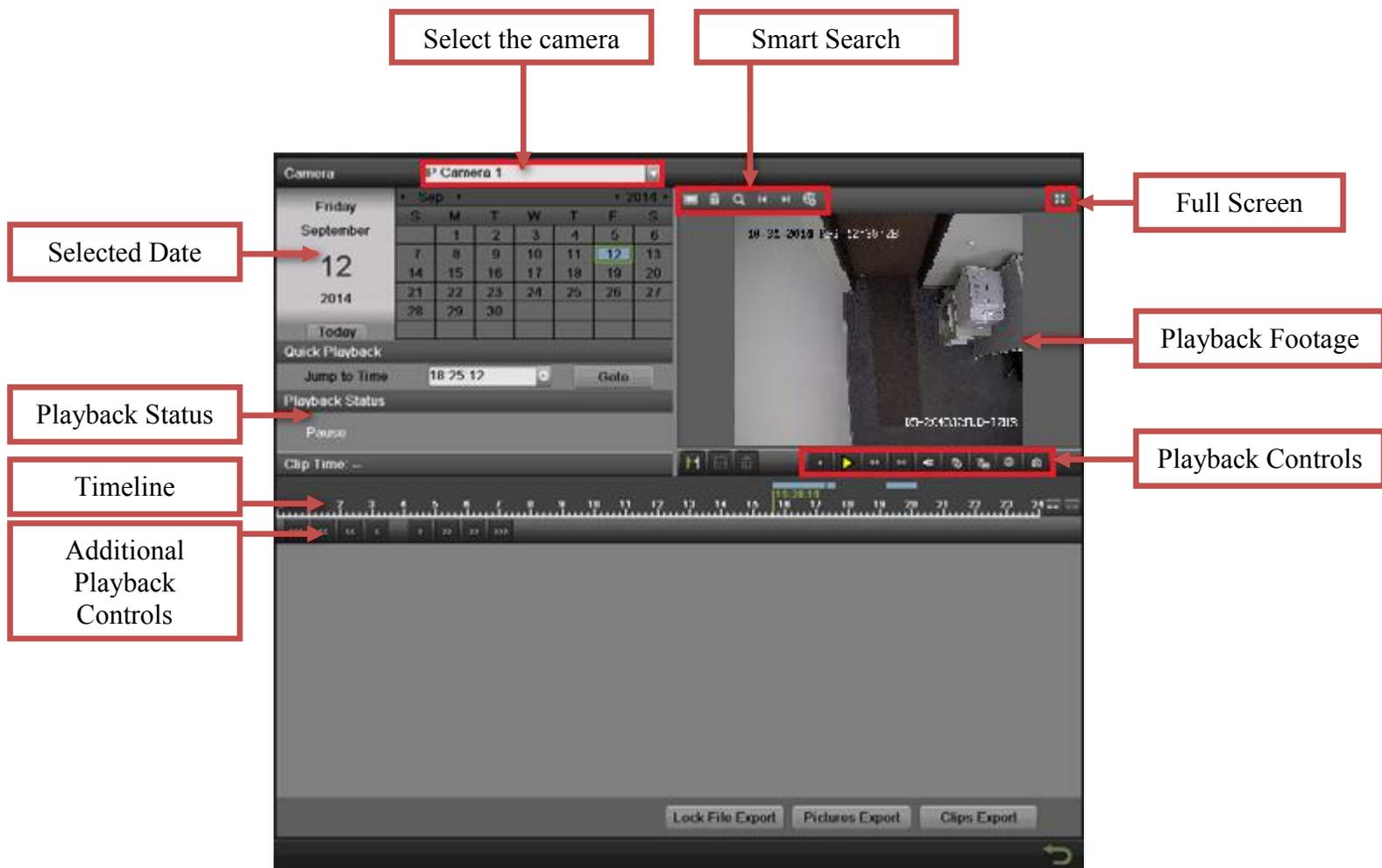


Figure 15

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- To find VCA recording in playback:
- Click on the **FULL SCREEN** icon.
 - Click on **SMART SEARCH (Figure 19)**.

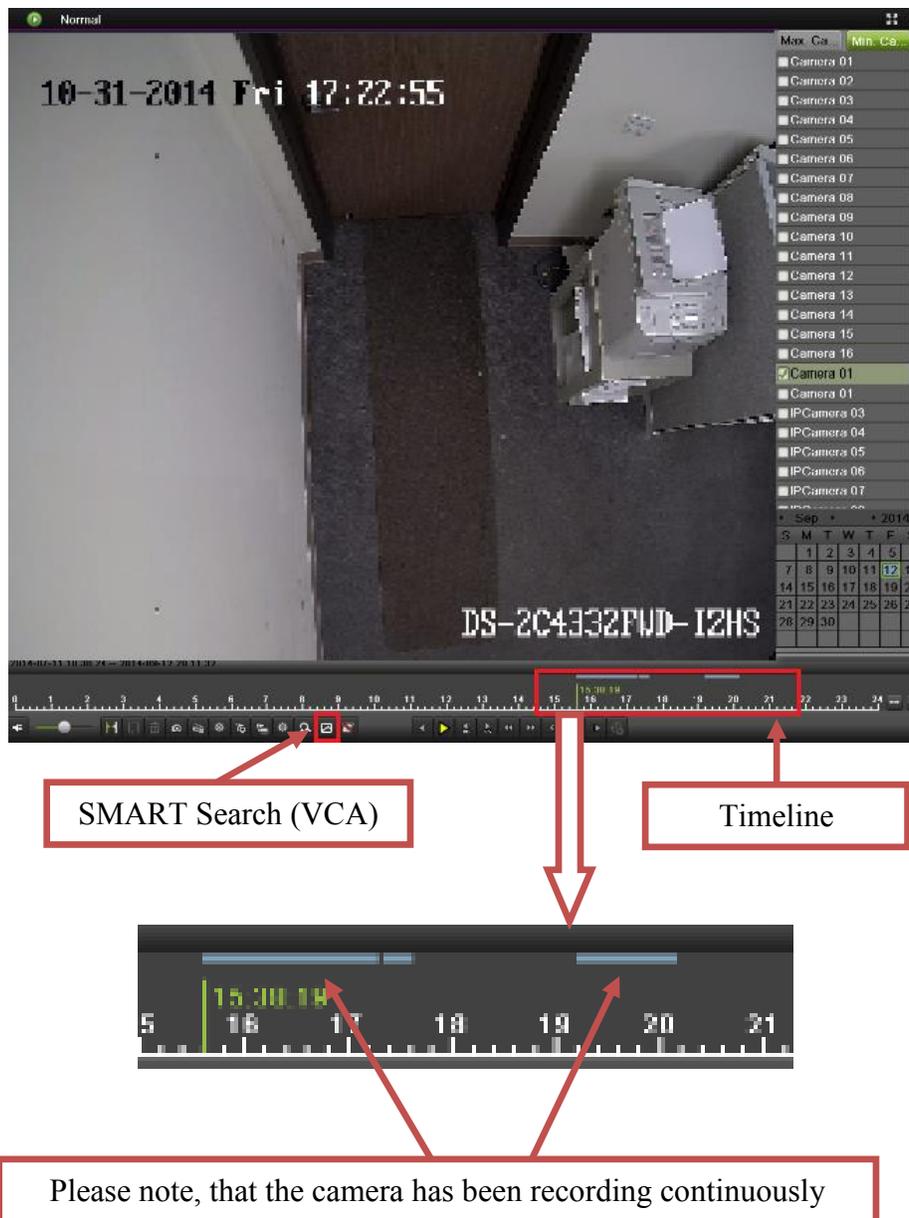


Figure 16

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After pressing the **SMART SEARCH** button, the **SMART SEARCH OPTIONS** toolbar will appear (**Figure 19**).



Figure 19

SMART Search Options

Figure 20 explains the icons in the Smart Search Options.

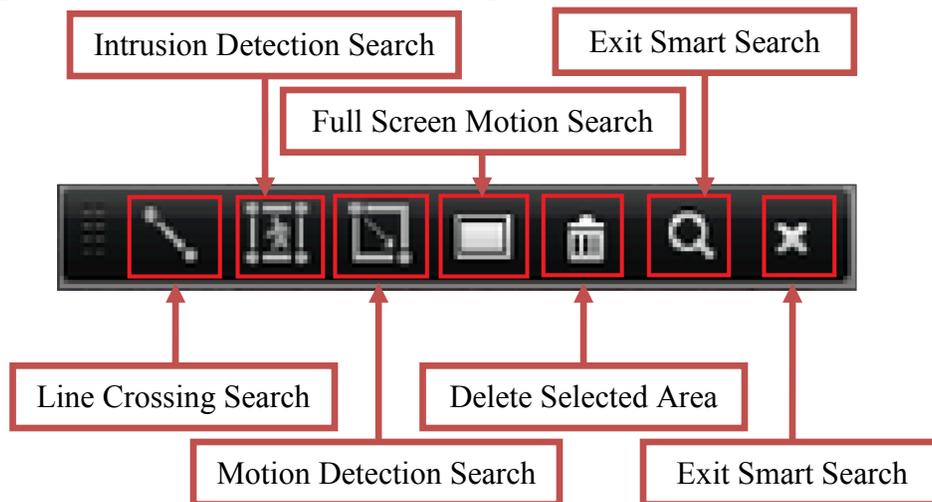


Figure 17

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To initiate a Line Crossing search:

- a. Click the line crossing search button
- b. Draw a line anywhere on the screen (please note that the line will look like a thin rectangle)
- c. Press Search

Please see **Figure 18**.

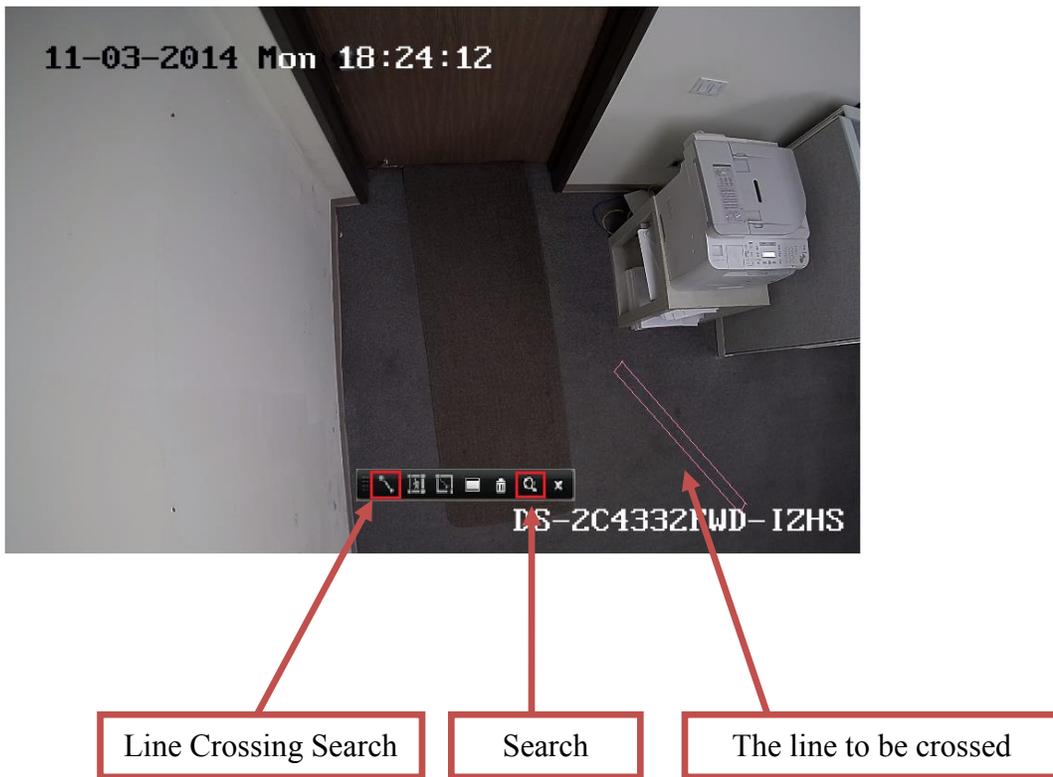


Figure 18

After searching, the timeline will look like the example in **Figure 19**.

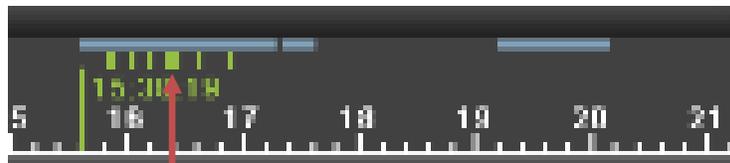


Figure 19

The choppy green lines indicate when line crossing has occurred

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To initiate a Line Crossing search:

- a. Click the line crossing search button
- b. Draw a line anywhere on the screen (please note that the line will look like a thin rectangle)

Please see **Figure 18**.

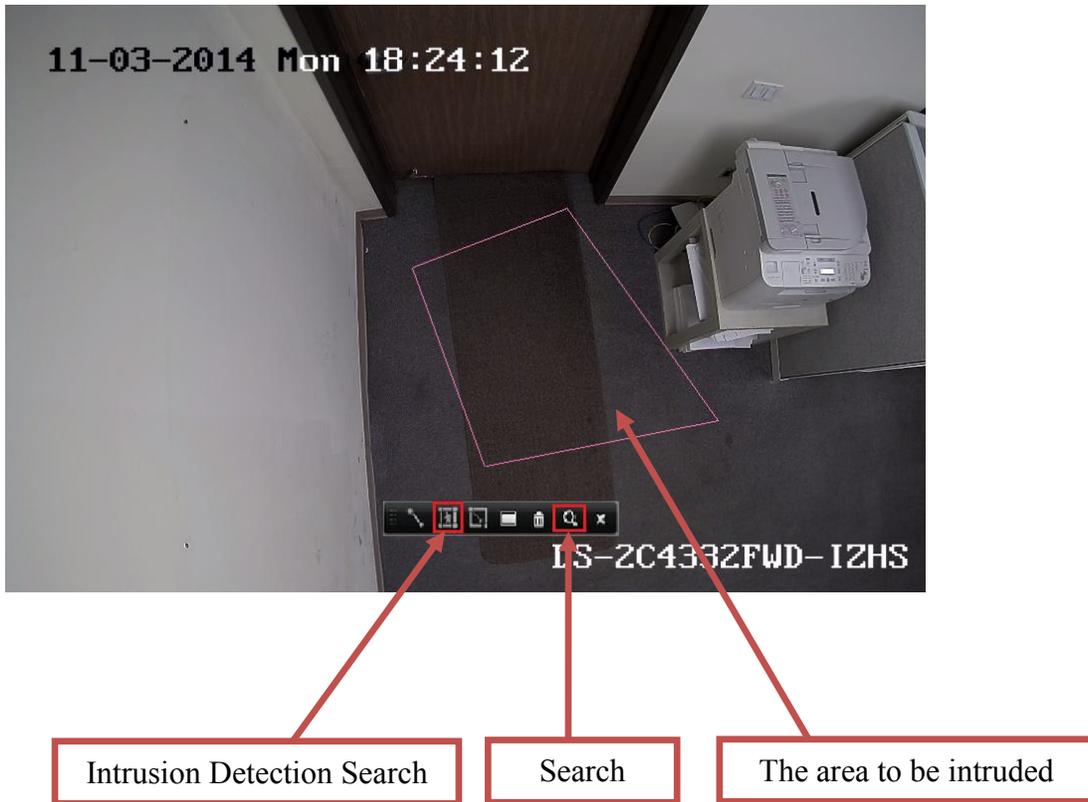


Figure 20

After searching, the timeline will look like the example in **Figure 21**

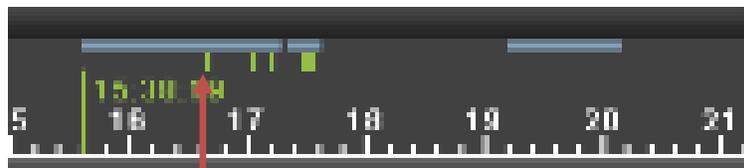


Figure 21

The choppy green lines indicate when intrusion has occurred