

Stinger Fence Monitoring Integration App-note



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1. Introduction

This document details the integration of the Stinger BS1xx Energizer Fence Monitoring system, with CathexisVision's software.

Functionally this integration will entail the triggering of standard CathexisVision Events, based on the triggers from the Stinger device.

1.1 Requirements

1.1.1 General Requirements

- CathexisVision 2016 Service Pack 1 and later.
- Windows 7 64bit and later, Windows Server 2008 R2 and later.

Note:

- 1. For more information regarding the regular operation of a Stinger device, please consult the relevant Stinger documentation.
- 2. When using a serial port connection CathexisVision is unable to detect the Stinger device if the Controller or Communications channel has lost connection.

1.1.2 License Requirements

The Cathexis Stinger integration license requirements are as follows:

License Name	License Description
CSTI-2000	Stinger fence monitoring license

Note: In this integration, a single license will cover multiple linked devices.

1.2 Integration Components

All CathexisVision integrations have two component levels: **Device** and **Object**.

Device	The device is CathexisVision software's interface, which handles all the interaction between CathexisVision and the integrated hardware. When an integration is added to the CathexisVision system, a device is added. The messages received from the device are called Device events.	
Objects	Objects Objects are the individual pieces of hardware that comprise the integration. There may be multiple "object types" under the objects group. For example, the main controller and door nodes of an access control system are both objects. They are different types of objects.	



A NOTE ON CAMERA CHANNELS

The CathexisVision software packages have **limits on camera channels**. A multi-sensor camera is physically a single device (camera) but it requires a camera channel for each one of the internal cameras. The same applies to an encoder: a 16-channel encoder will account for 16 camera channels on the CathexisVision software, even though it is a single device. Even when a camera or device only uses a single IP license, the camera channel limit will still apply.

1.3 Features and Abilities

The device connects to a pc through an RS485 port (2400 baud rate), but can be connected to a CathexisVision system via a Cathexis Technologies ESP

Note: An RS232 to RS485 converter is required as the ESP has RS232 ports/communication.

The integration has two objects:

- 1. Field box.
- 2. **Zone**.

Each field box has multiple **zones** on it. Zones can enter an alarm state, but can't be controlled, by CathexisVision.

Field boxes can receive reset and status request commands from CathexisVision.

USEFUL LINKS

To view **tutorial videos** on CathexisVision setup, visit https://cathexisvideo.com/resources/videos

Find answers to Cathexis Frequently Asked Questions: https://cathexis.crisp.help/en/?1557129162258



2. Device Addition

This section details the procedure for setting up the two systems to communicate with each other effectively.

2.1 Stinger Setup

This device requires no special setups to function with the CathexisVision integration. Please take note of the Serial settings on the device though, as these will be needed when adding the device to CathexisVision.

2.2 Devices Section (Add a New Device in CathexisVision)

Integrations are added on a server-by-server basis. They are managed in the Integration Devices panel, under the Setup Tab of the servers to which they are added. To get to the Integration Panel follow this path:

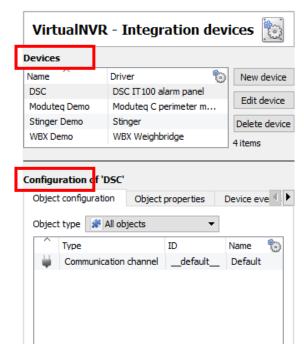
2.2.1 The Integrations Panel

To get to the Integration Panel, follow this path: **Site / Open tab / Setup / Configuration icon / Server / Integration devices**.



There are two sections in the Integration Panel:

- 1. The **Devices** list shows the integration devices attached to the integration database.
- 2. The **Configuration** section enables editing/reviewing the device selected in the **Devices** section.

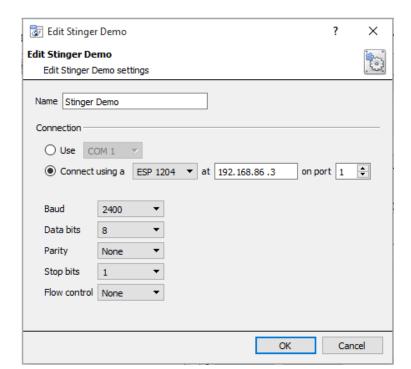




2.2.2 Device Addition



- 1. In the Integration Panel, navigate to the **Devices section.**
- 2. Click on the **New device** button on the right-hand side. This will open the addition dialogue.
- 3. Select **Stinger** driver from the list.



Give the device a descriptive name.

Serial Connection

Select the **COM** port that the Stinger device is connected to.

Set the **Baud rate**, **Data bits**, **Parity**, **Stop bits**, and **Flow control** to match those of the Stinger device.

Network Connection

When using an ESP to connect the Stinger device to a network, enter in the **IP address** of the ESP, along with the **port number** that the Stinger device is connected to on the ESP.

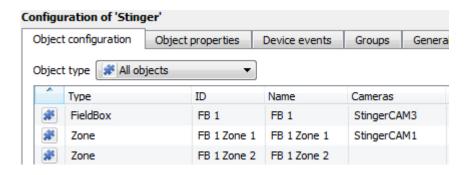


3. Configuration Section (Tabs)

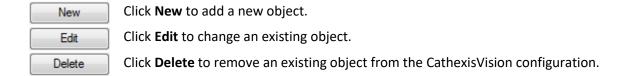
The configuration section is divided up into a number of tabs. These tabs are: **Object configuration, Object properties, Device events, Groups,** and **General.**

3.1 Object Configuration Tab

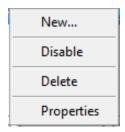
The object configuration tab is where all the individual objects that comprise the integration may be viewed. The Stinger device has two object types **FieldBox**, and **Zone**.



3.1.1 Object Configuration Buttons



3.1.2 Object Configuration Right-Click Options



New will open up the dialogue to add a new object.

Disable/Enable allows objects to be enabled/disabled manually.

Delete will permanently remove this object from the list.

Properties will open up the object properties. The object may be edited from here. Specifically, assign cameras to this object, and define user access levels.



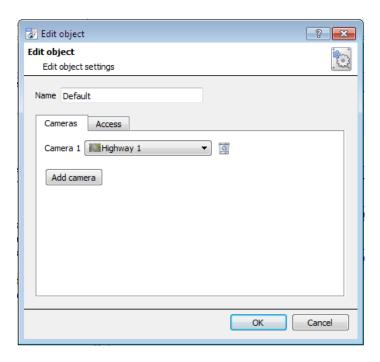
3.1.3 Edit Object

Use the Object configuration tab to make changes. Open the object **editing window** by selecting object from the list, and clicking the **Edit button**, or **right-click Properties**.

This window is where cameras are added to objects, overlays are configured, and access rights to the integration are added. These are dealt with in two tabs: **Cameras** and **Access**. For this integration, the door or device can also be renamed in this window.

3.1.3.1 Properties: Cameras

Adding a camera to an object will mean that whenever there is an event on that object, the recording from that camera will be related to the time and date of the object event, in the Integration database.





To **add** a camera, click Add camera, and select the relevant camera from the drop-down menu.



To **delete** a camera, click the trash icon.

Note:

- If *continuous recording* is not set up on associated cameras, there is the risk of an object event triggering while the cameras are not recording.
- To record cameras only when an object triggers, set up **Events** that trigger a recording, when one of these objects is activated.
- While multiple cameras may be added here, the first camera added with the object will be linked in the integration database.



3.1.3.2 Properties: Access



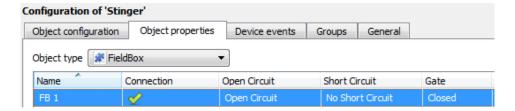
Access can be used to protect sensitive objects, by only allowing certain user levels access to them.

There will be a list of objects, whose access level may be set.

Note: If *Use default access rights* is checked, make sure that those default rights have been correctly defined. Click on **Configure default access** to do this.

3.2 Objects Properties Tab

The Object properties tab allows objects to be viewed and sorted by type. In the case of the Stinger device, the options are to view by **Field-box**, and **Zone**.



3.2.1 Column Definitions

The table below provides explanation of the various FieldBox object columns.

Column	Description
Connection	Indicates whether or not the NVR is communicating with the device
Open circuit	Indicates whether or not there has been an open circuit since the last reset
Short circuit	Indicates whether or not there has been a short circuit since the last reset
Gate	Indicates whether the gate alarm has occurred since the last reset
Battery	Indicates whether the battery voltage is within the valid range. Note that this does not
	display whether a battery is present or absent
Buzzer	Indicates whether or not the Monitor Siren is on
Siren	Indicates whether the siren will sound or not when an alarm condition is active
Power	Indicates the current power output level
Fence	Indicates whether the fence is OK or if the HT Transformer or energizer is faulty

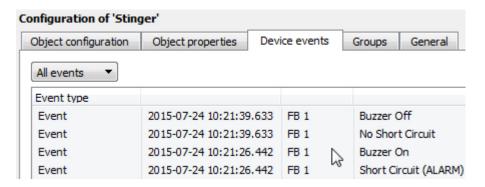


3.2.2 Right-Click Options

When viewing the **FieldBox** objects, right-clicking on an object will present the option to reset the box. There are no right-click options for **Zones**.

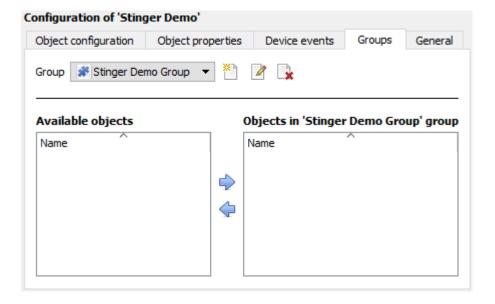
3.3 Device Events Tab

The Device events tab lists real-time events happening on this device. Installers can ensure that the integration is functioning, and monitor the Events happening on site.



3.4 Groups Tab

Groups of the same type of object can be created (e.g. groups of doors).



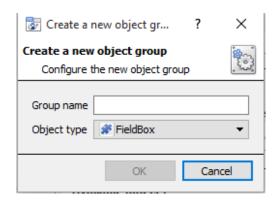
Tip: This is useful when setting up Events, because events can be triggered by an object group. (I.e. A group will trigger if any of the devices in that group is triggered.)



3.4.1 Create a Group

- To **create** a group, click on this icon.
- To **edit** a group, click on this icon.
- To **delete** a group, click on this icon.

A new dialogue box will pop up when the create button is clicked.



Give the group a descriptive Group name.

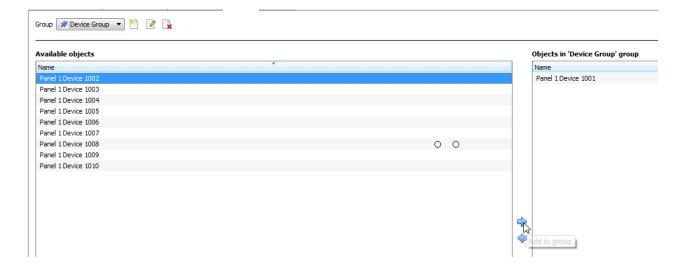
Click on the drop-down menu to select the **object type** to group.

Note: Once a group has been created, the object type of the group cannot be edited.

The next step is to add individual objects to the group.

3.4.2 Add or Remove Objects

After creating a group, a list of all the available objects for that group will be displayed in the Available objects panel, on the left-hand side. These are ready to be added to the group.



Objects can then be chosen from this list, and added to the group.





To **add** these objects to the group, select them from the list, and **click on the right arrow**.

To **remove** these objects from the group, select them and **click on the left arrow**.

Note: Multiple objects may be selected at a time.

Once individual objects have been added to the group using the arrows (above), they will appear in the section on the right-hand side.

3.5 General Tab

The General tab of the Configuration section (Integration panel) deals with the integration database. Setup must be completed here, before the Databases tab can be used to search events and view associated footage.



<u>Important Note</u>: Each integrated device needs to be attached to an Integration database. Without setting up/adding a database here, the integration will not function properly within the CathexisVision system.

3.5.1 Configure a New Database

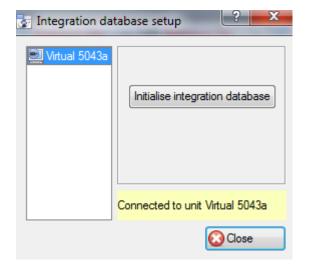
- The first time an integration database is added, the general integration database will need to be *initialised*.
- If the database has already been initialised, then a database for a *specific integration* (i.e., Stinger) can be created by following the steps.



If there is no database created yet, clicking on this button open the integration database setup.



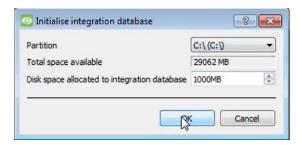
3.5.1.1 Initialise the Integration Database



Select the unit to which the database will be added, from the list on the left.

Then, click Initialise integration database.





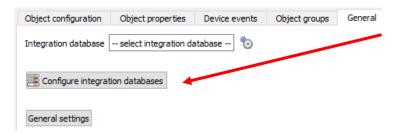
Choose the **partition** on which the database will be created.

Select disk space allocation.

Click OK.

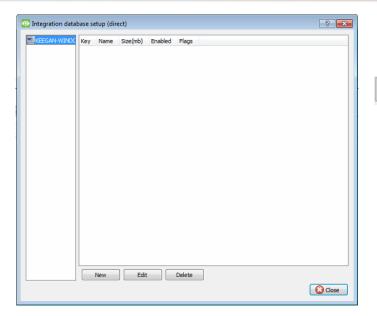
3.5.1.2 Add a New Devices Database

After initialisation, the database can be added to the integration.



To add a new database, click the Configure integration databases button from the General tab.

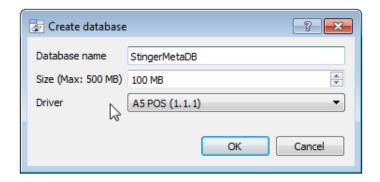




This opens the integration database setup window.

New

Click the New button.



Give the integration database a descriptive **Database Name**. e.g. Stinger.

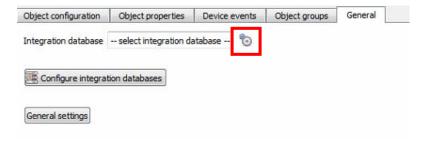
Allocate a **Size** to the new device database.

Choose the device Driver.

Click OK to create the database.

3.5.2 Select the Stinger Integration Database

Once the database has been initialised, and a Stinger database has been created, the database must be selected.

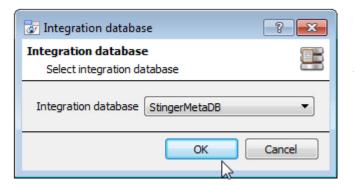


Return to the General tab.

Then, click the settings icon.

A dialogue will appear. Only databases which relate to the device being added should appear.





Select the **Stinger database** from the drop-down menu.

Then click **OK**.

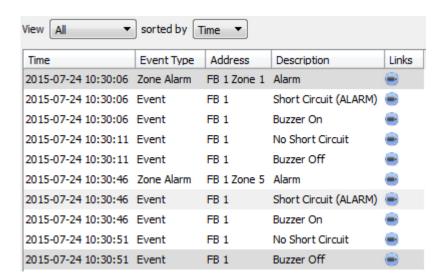


4. Database

The Databases tab allows the user to navigate to the databased entries for each individual database. In the Databases tab, each database is presented as a table. It has built in filters, and the ability to navigate by timestamp. If a database entry has an associated recording, this recording can be launched from within the Databases tab.

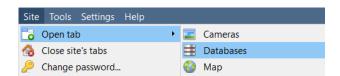
Most integrations will have a different database presentation, and unique filters, due to the different parameters sent to CathexisVision by the integrated device.

The Stinger database is information rich. This is an example of some of the information that is included:



4.1 Navigate to the Database

To view information stored in the Integration, first navigate to the Databases Tab.



Follow the path on the left: Site / Open tab / Databases.

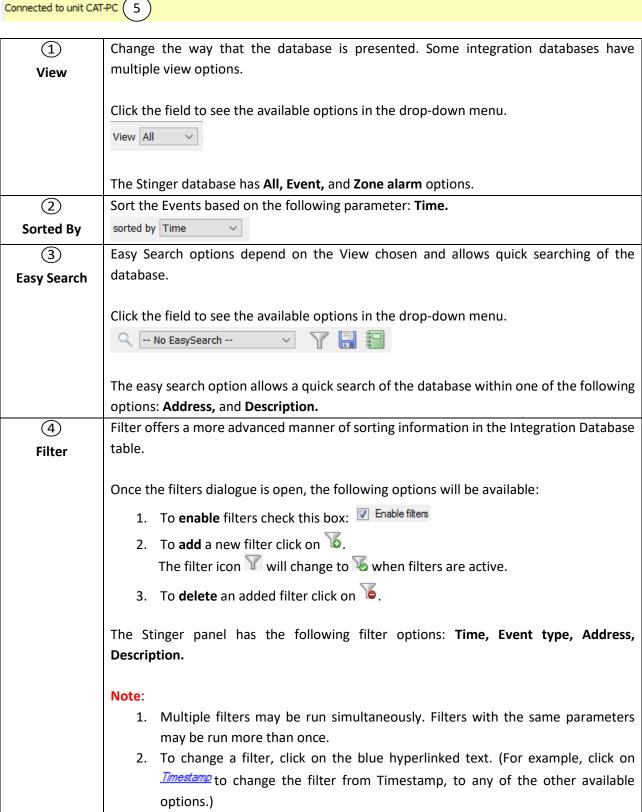
Select the **Stinger** integration database from the database panel that opens on the left-hand side.

The databases are ordered under the NVRs to which they are attached.



4.2 Database Interface







5 Go to Time

This navigates to a specific point in time, down to the second. To navigate to a timestamp, set the time using the time and date boxes.

+

Then, click on the arrow icon.

4.2.1 Viewing an Entry's Associated Recording

If cameras are attached to device objects in the integration setup, and these cameras are set up to record continuously, each integration database entry will have a corresponding recording. See the image below.



- To view an associated recording, simply left-click on a database entry which has the camera icon in the **Links** column.
- Then click **play** in the video player.



5. Events

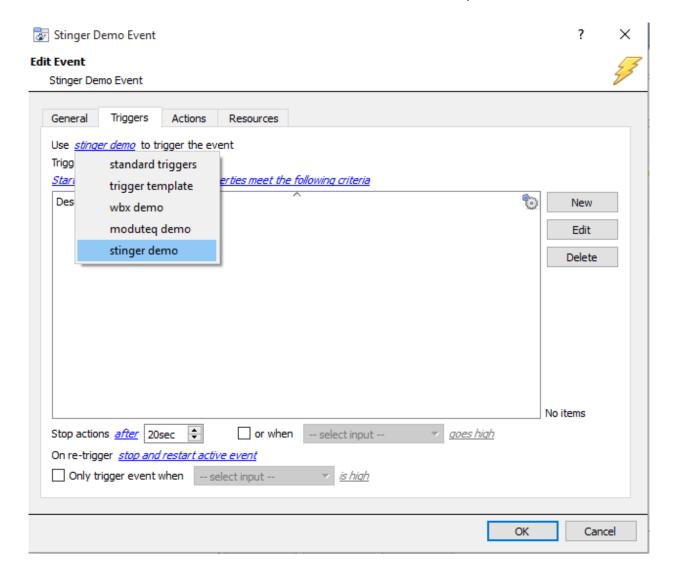
A CathexisVision event has a trigger, which causes an action. Set integrated devices to act as triggers, or as actions. This document describes the Stinger specific aspects of Events. There is a comprehensive guide to CathexisVision Events in the main setup manual.

Most of the data that CathexisVision receives from a device is presented in the Events interface. This gives the user a full range of options. As a result, some of the options presented in the interface may be *impractical* as an event trigger, or action.

5.1 Event Window

Events in CathexisVision are set up via the Event Window, which has four tabs.

- In the **General Tab**, an event is given a name, description, schedule and priority.
- In the **Triggers Tab** the trigger/s for the event is defined.
- In the **Actions Tab** the action/s which the event takes, is defined.
- In the **Resources Tab** the various site resources which can be used as part of an event are defined.





5.2 Creating an Event

To create an event using the Stinger device, navigate to Events by following the sequence: **Open Tab / Setup / Servers / Master Server / Events**. This is shown below.



This will allow the user to enter the Events management area.

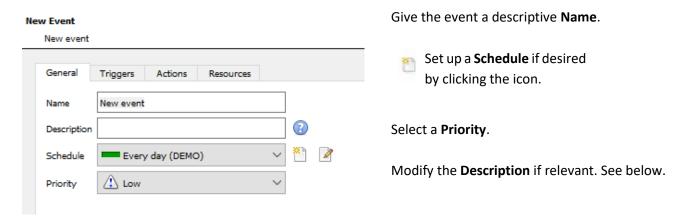


Once in Events management area, click the **New** icon at the bottom of the screen. This will open up the **New Event window**. Alternatively, right-click and select **New**.

The new event window has four tabs which can be used to set up the event: General, Triggers, Actions, and Resources.

5.3 General Tab

Create a new event under the General tab by filling in the fields.



Note for group triggers: For an event to be databased under the name of a specific object, and not the name of the triggering group, modify the Description field in the **General tab** of the Event setup.



Click on the question mark icon to see a list of available descriptions and instructions for how to enter these descriptions. A window will open, as shown below.

Here is a Stinger example which will send the triggering fence's name to the database, for the event:





5.4 Triggers Tab

The Triggers tab is where a user chooses which events sent from devices (or systems) will be used for an automated CathexisVision response (action).

A trigger is the user defined input that tells the event to start. The trigger causes the subsequent action (which the user will also define).



The user will need to click on the hyperlinks (depicted alongside) to set up the trigger.

By clicking on each hyperlink, options will open.

The subsections below provide instructions for these different hyperlinks.

5.4.1 Set the Device as the Trigger

For a new event, the trigger type will default to "standard triggers". The user will need to change this to the Stinger device.

Use standard triggers

To change the event trigger, **click on "standard triggers"** (the hyperlink after the word "Use").



This will open a drop-down menu with more options.

To set the Stinger device as the trigger, **select the device name** (Stinger) from the drop-down menu.

5.4.2 Trigger Types (Trigger Using)

It is useful to think of this as a master trigger type.



Use <u>stinger demo</u> to trigger the event

Trigger using <u>any fieldbox</u>

Start actions

Description

any zone

fieldboxs in group 'Stinger Demo Group'

Communication channels

any device event

MENU OPTION	DESCRIPTION OF TRIGGER TYPE
Any fieldbox/zone	will trigger when any of these objects sends the selected trigger.
Object in group	will trigger on the specific object chosen.
Specific fieldbox/zone	will trigger, initially, when any event occurs on the device (integration).
Communication channels	will trigger only on the Communication channels.
Any device event	will trigger on any event that occurs on the device. Within the "any device
	event" setup, "device event rules" may be set up to constrain which device
	events will trigger the event.

5.4.3 While/When and Any/All

When triggering on an object, choose from the option to trigger **while or when** a trigger is active. Multiple triggers may be selected. Define whether **all or any** of the triggers need to be active to start an event.



To change these settings click on the related, blue, hyperlinks.

The user can choose the option to:

- **start actions when** any of the properties meet user-configured criteria, or any user-configured device events occur, or
- perform actions while any/all of the properties meet user-configured criteria.

Start actions when	any of the properties meet the following criteria
	any of the following device events occur
Perform actions while	any of the properties meet the following criteria
	<u>all</u> of the properties meet the following criteria



5.4.4 Define the Trigger: ("Any Device Event" Option)

After selecting a master trigger type, add a trigger to the event.

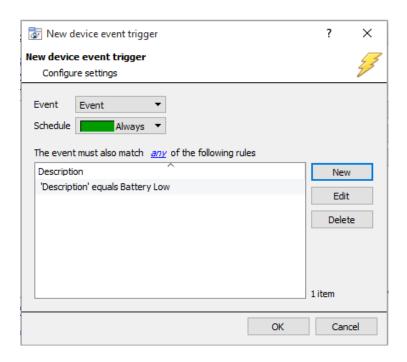
If the user has selected the hyperlink *any of the following device events occur*, they will need to follow the steps below to add a **new device event trigger**.



Click on New in the Triggers tab.

Clicking on New will bring up the New device event trigger dialogue box.

5.4.4.1 New Device Event Trigger



- Select the type of Event where applicable. Stinger offers Event and Zone device events.
- Choose a schedule.
- Finally, use the new/edit/delete buttons on the right-hand side to add a device event rule (a constraint). Follow the instructions below.

Note: Users may set multiple constraints (**Device Event Triggers**). If constraints are not defined, every single device event will trigger this event.



5.4.4.2 New Device Event Rule



To configure a New device event rule, **click on New** in the New device event trigger window.

This will bring up a further window, called **New device event rule.**



To change the constraint **click on the first hyperlink** (which is *Description* in the example).

This will bring up the full list of available rules. **Click an item** to select it.

To modify the way this rule will be treated, **click on the second hyperlink** (*equals* in the example). This will show the constraint's options.

Defining a Constraint: Drop-Down Menu or Written Description

When all available options are known to CathexisVision, a drop-down menu will appear alongside the chosen constraint. **Click an item** from the drop-down menu to select.

When these variables are not pre-defined, fill them in. The information pulled through to the events is information sent to CathexisVision from the Stinger device. See the Stinger settings for the strings needed here.

5.4.5 Define the Trigger: ("Properties Meeting Criteria" Option)

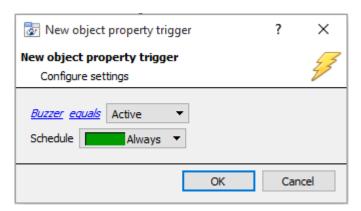
The alternative to *any device event* triggers is has a slightly different setup window. If the user has defined the trigger by choosing according to *properties meeting criteria*, the **New object property trigger** dialogue box will open.

- In these instances, further constraints do not need be set, since they are being added one at a time.
- This option is better if a few triggers have been selected.
- This is also true for groups, since a group may only be made up of one object type.



5.4.5.1 New Object Property Trigger: Configure Settings

Since only one type of object is being used to trigger the event, the dialogue will appear as the **New Device Event Rule** window did previously.



Select the event type by clicking the first hyperlink, and modify by clicking the second hyperlink.

Then, either **fill in the text field**, or, use the **drop-down menu** where relevant.

5.5 Actions Tab



Having defined the triggers that will initiate an event, the user will need to define Actions.

Select the Actions tab from the New event window.

The Stinger device allows the following level of control over the Fieldboxes via a CathexisVision Action: Reset.

5.5.1 Adding an Action

New

To add an event action, click New in the Actions tab.



A list of **available actions** will appear. The drop-down contains all the available **action types**. The icons represent the device action **type**.

Select an option, for example, Record Camera.

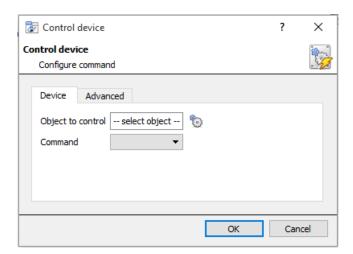


This icon represents an action to control. It will state "Control..." and the name of the device.

Select **Control Stinger** in order to control this device with the CathexisVision event.



5.5.1.1 Actions: Control Device



To select an **Object**, click on the settings icon.

This shows all the Objects available on the Stinger device.

The **Command** options are all the options which the event can control on this panel.



6. Conclusion

This app-note was designed to deal specifically with this integration. For further information about the CathexisVision software, consult the main manual (http://cathexisvideo.com/).

For support, email support@cat.co.za.