



FSK Multi Decoder Integration App-note

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1. Introduction

This document details the integration of the FSK Multi Decoder with CathesisVision software.

The FSK Multi Decoder is a radio and/or GSM based decoder for all FSK radio and GSM networks. It can be used as a stand-alone base station (utilizing its liquid crystal display and printer port) or in conjunction with monitoring software in a control room.

Note: For information regarding the regular operation of a FSK device, please consult the relevant FSK documentation.

There is a General Integration section in the main *CathesisVision Setup Manual*. It contains information about creating an integration database, as well as a general introduction to the Integration Panel. **Read this section.**

1.1 Requirements

1.1.1 General Requirements

- CatVision 2013 and later (CatVision is no longer used; later CathesisVision versions will support this integration).

1.1.2 CathesisVision License Requirements

License	Name	Description
CALM-2000	CathesisVision alarm license.	<p>This license is the “base” license to integrate with an alarm panel. It is applied to the server to which the alarm panel is connected. It will allow for the connection of a single alarm panel.</p> <p>This license will allow CathesisVision to communicate with the FSK device.</p>

Note: In this integration, individual alarm panels will require a license for each panel.

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 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

1.3.1. Messages and Object Types

The following device event messages, and objects/object types, will be represented in the CathexisVision integration, after installation and configuration, of the FSK hardware.

They are visible from: Site / Setup Tab / Configure Servers / Integration devices.

1.3.1.1 Object Property

The FSK system has two Objects:

- Controller
- Zone

1.3.1.2 Device Events

- Zone event
- General event
- Informational
- Keyholder event

2. FSK Setup

The following CathesisVision specific configuration, on the FSK Multi Decoder is necessary, in order to get the integration working.

2.1 Serial Connection Settings

The alarm panel is connected via a serial port:

Baud	1200
Data	bits 8
Parity	None
Stop bits	1

2.2 FSK Settings

The panel provides users with different options for the RS232 format:

- FSK Standard;
- FSK Extended; and
- FSK7 (Contact ID)

In order for it to work with CathesisVision, the **RS232** format must be configured as "FSK Extended".

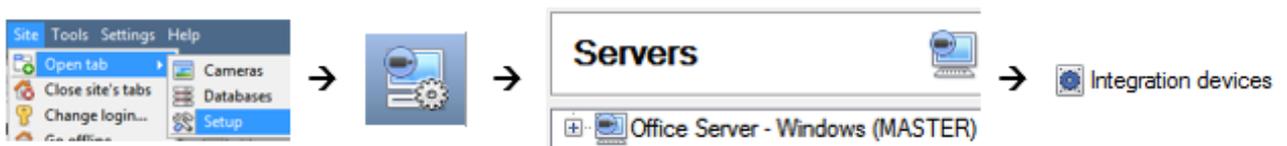
3. Device Addition

3.1 Add a New Device in CathesisVision

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.

3.2.1 The Integration Panel

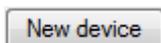
To get to the Integration Panel, follow this path: **Site / Open tab / Setup / Configuration icon / Server / Integration devices**.



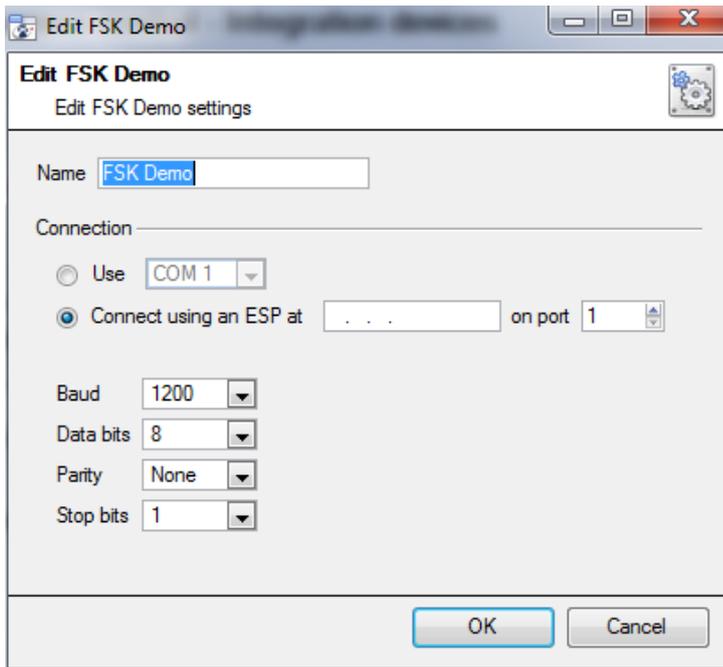
There are two sections in the Integration Panel:

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.

3.2.2 Device Addition



1. Once 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 the **FSK** driver from the list.



4. Give the device a descriptive **name**.
5. The **connection** may be done via a direct serial port, or through an ESP. (The ESP is a Cathexis product that gives devices, which use serial connections, access to the network.)

Note: The ESP can take 4 serial connections (represented as 'port' here). Ensure that the correct port number has been selected.
6. The default **baud rate**, **data bits**, **parity**, and **stop bits** should all be correct.
7. Click OK.

4. Configuration Section (Tabs)

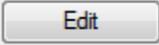
The configuration section is divided up into five main tabs. These tabs are: **Object configuration**, **Object properties**, **Device events**, **Groups**, and **General**.

4.1 Object Configuration Tab

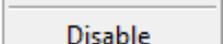
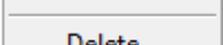
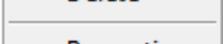
The object configuration tab is where all the individual objects that comprise the integration may be viewed. FSK has two object types: **Controller**, and **Zone**.

Note: There are 33 preloaded zones (logically assigned), and 1 preloaded controller.

4.1.1 Object Configuration Buttons

	Click New to add a new object.
	Click Edit to change an existing object.
	Click Delete to remove an existing object from the CathesisVision configuration.

4.1.2 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.

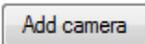
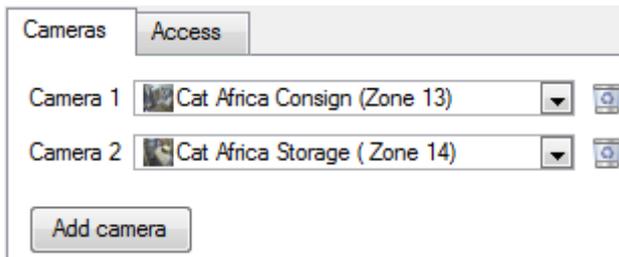
4.1.3 Edit Object

Open object **editing window** by selecting object and clicking **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**.

4.1.3.1 Properties: Camera

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.



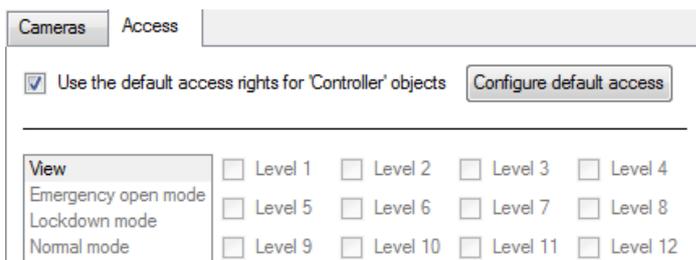
To **add** a camera, click Add camera, and select the relevant camera from the drop-down menu.



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.

4.1.3.2 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.

4.2 Objects Properties Tab

The Object properties tab allows objects to be viewed, sorted by type.

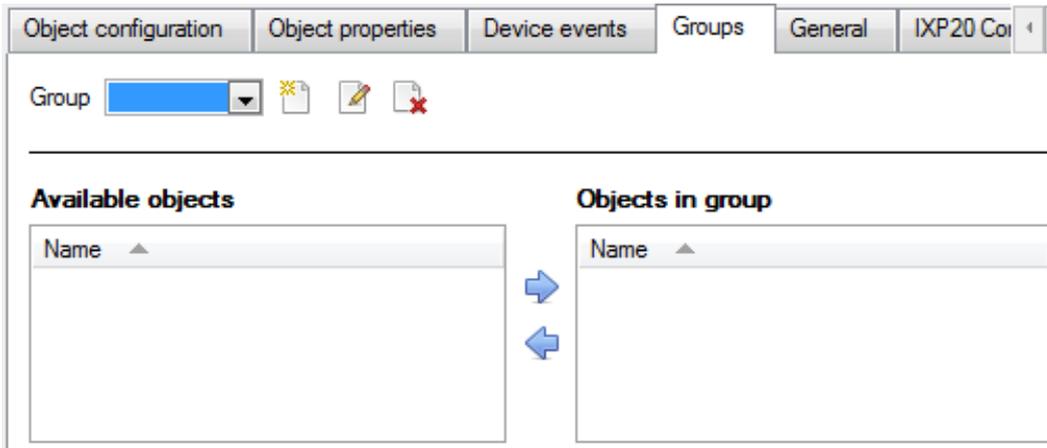
In the case of the FSK device, the options are **Controller**, or **Zone**.

4.3 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.

4.4 Object Groups Tab

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

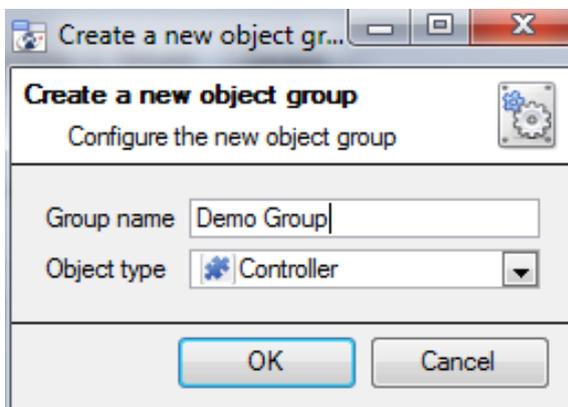


Tip: This is useful when setting up events, because events can be triggered by an object group. (E.g. a group will trigger an event if any of the doors in that group are triggered.)

4.4.1 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.



Give the group a descriptive **Group name**.

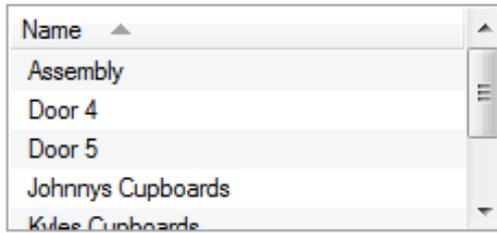
Click on the drop-down menu to select the **object type** to group.

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.

4.4.2 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.

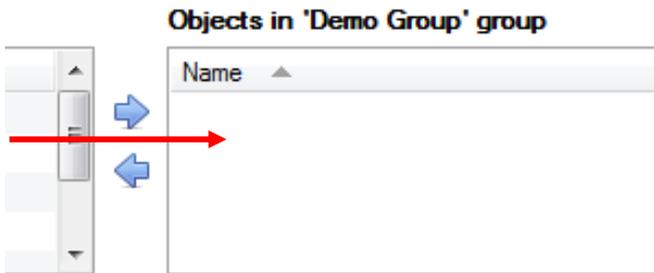
Available objects

Objects in 'Demo Group' 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.



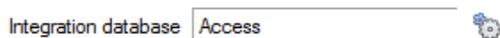
Once individual objects have been added to the group using the arrows (above), they will appear in the section on the right-hand side.

4.5 General Tab

The General tab of the Configuration section (Integration panel) deals with the integration database.

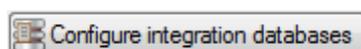
From the General tab, the user must either to select a pre-created database, or configure a new database.

4.5.1 Select an Integration database



To select a database click on settings icon, and select the relevant database. Only databases which relate to the device should appear.

4.5.2 Configure a New Database



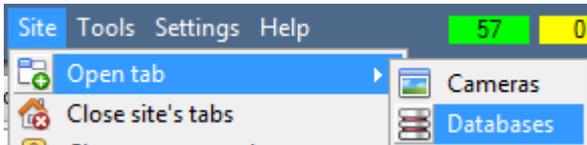
If there is no database created yet, clicking on this button will take open the integration database setup window.

Note: The information on setting up an integration database may be found in the **Integration Devices General Settings** section of the CathesisVision Setup Manual.

5. Database

5.1 Navigate to Database

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



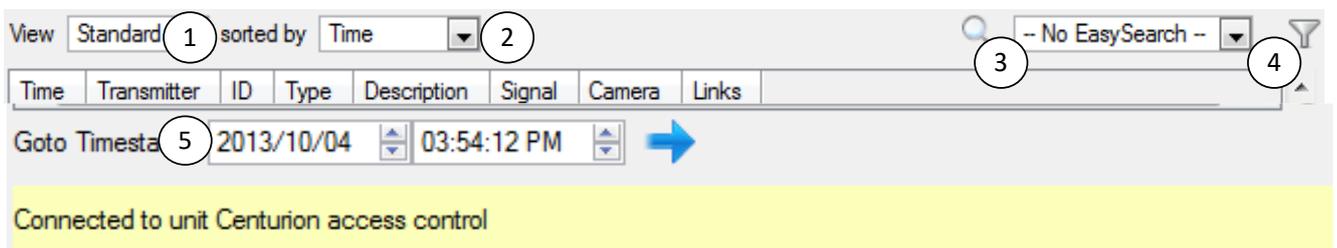
Follow the path on the left: **Site / Open tab / Databases.**



In the databases tab, select the relevant integration database.

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

5.2 Database Interface

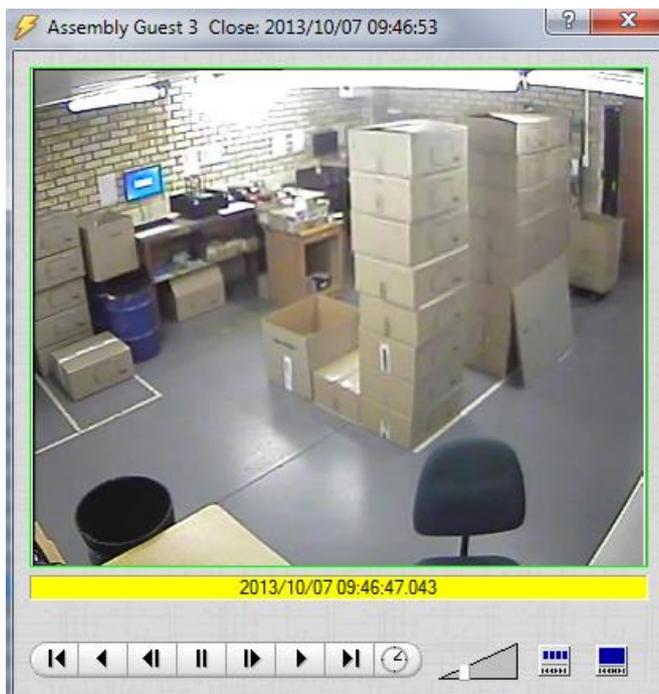


① View	Change the way that the database is presented. Some integration databases have multiple view options. The FSK database only has the standard option .
② Sorted By	Sort the Events based on the following parameters: Time, Transmitter, or ID, Type, or Description.
③ Easy Search	The easy search option allows the user to search the database quickly within one of the following options: ID, Description, and Signal.
④ Filter	<p>Filter offers a more advanced manner of sorting information in the Integration Database table.</p> <p>Filter based on the following parameters: Time, Transmitter, ID, and Type.</p> <p>Once the filters dialogue is open, the following options will be available:</p> <ol style="list-style-type: none"> To enable filters check this box: <input checked="" type="checkbox"/> Enable filters To add a new filter click on . The filter icon will change to when filters are active. To delete an added filter click on .

	<p>Note:</p> <ol style="list-style-type: none"> 1. Run multiple filters simultaneously and filter using the same parameter more than once. 2. To change a filter click on the blue hyperlinked text. (For example, click on Timestamp to change the filter from Timestamp, to any of the other available options.)
<p>⑤ Go to Time</p>	<p>This will allow the user to go to a specific point in time, down to the second. To navigate to a timestamp set the time using the time and date boxes.</p> <p>➔ Then click on the arrow icon.</p>

5.3 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 a databased event’s recording double click it. A floating replay window will appear, from which the user may review and archive video content.

 will show the view to the left.

 will break down the image into 4 sequential frame viewers.

6. Events

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

Most of the data that CathesisVision receives from a device is presented in the Events interface. This is done in order to give 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.

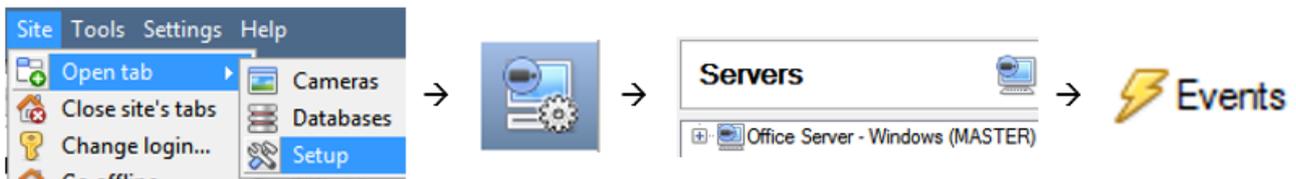
6.1 Event Window

Events in CathesisVision 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.

6.2 Creating an Event

To create an event using the FSK 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.

6.3 Triggers Tab

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

6.3.1 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 FSK device.



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

6.3.2 Trigger Types



Any controller will allow the user to use any of the events relating to the main device as a trigger.

Any zone will trigger if anything happens in a specific zone

Controllers/zones in group... if created an object group has been created, it will appear in this drop-down list, and may be selected as a trigger.

Any device event will trigger when any trigger occurs on the FSK device.

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.

Here is an example which will database the text “Door Name” along with the name of the *door object* that triggered the event:

Description

6.3.3 While/When and Any/All

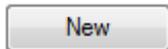
When triggering on a door, the user will have the option to trigger **while/when** a trigger is active. Multiple triggers may be set. The user will also define whether **all/any** of the triggers need to be active to set off an event.

Trigger using [Door 3](#)
 Perform actions while [any](#) of the properties meet the following criteria

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

6.3.4 Define the Trigger (Any Device Event)

After using the hyperlinks to set up how the trigger will be defined (above), the user may proceed to creating a new *device* event.

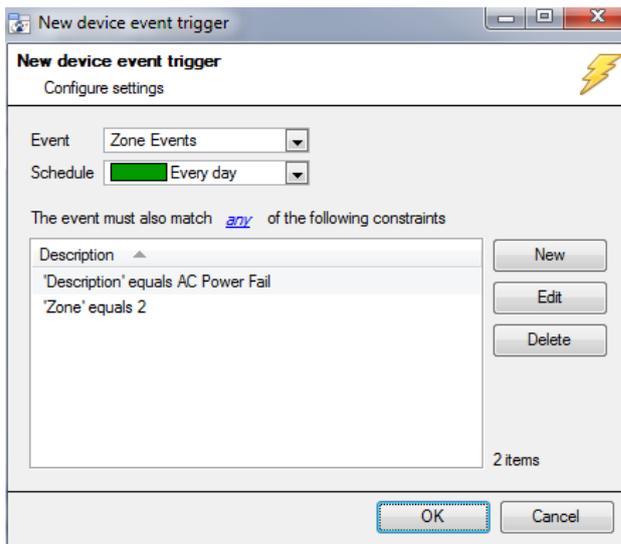


Click on **New** in the Triggers tab.

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

6.3.4.1 New Device Event Trigger

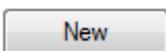
If the user has selected the hyperlink *any of the following device events occur*, they will need to follow the steps below to add and configure a **new device event trigger**.



- Choose the **type of Event**. FSK offers Zone Events, General Events, and Keyholder Events.
- Choose a **schedule**.
- Choose whether [any](#), or [all](#) constraints need to be fulfilled to set off a trigger.
- Finally use the **new/edit/delete** buttons on the right-hand side to add a device event rule (a constraint). Follow the instructions below.

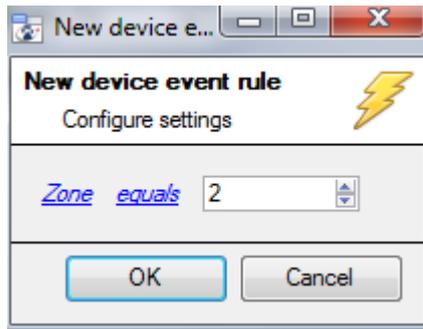
6.3.4.2 New Device Event Rule

Note: From within the **New device event trigger** window (above), it is necessary to set further constraints. Multiple constraints can be set. If constraints are not defined, every device event will trigger this event.



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 hyperlink (in this case [Zone](#)). This will bring up the full list of available rules.

To modify the way this rule will be treated, click on the second hyperlink ([equals](#) in the example). This will show the rules options.

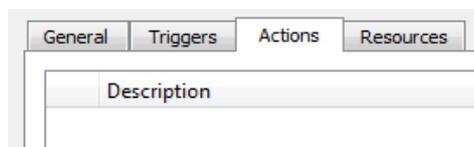
- When all available options are known to CathesisVision, a drop-down menu will appear.
- When these variables are not pre-defined, they will need to be entered as text. The information pulled through to the events is information sent to CathesisVision from the FSK device. See the FSK settings for the strings needed here.

6.4 Actions

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

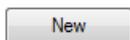
One of the available actions will be to *control* a FSK device.

6.4.1 Open Actions Tab



Select the **Actions tab** from the **New event** window.

6.4.2 Add an Action

 To add an 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 Action device e.g.

 Control FSK Demo...

6.4.2.1 Actions: Control Device

 Control FSK Demo... Click a Control device option to bring up the **control device** dialogue.

Under the **Device** tab, the user defines how the device will be controlled. Under the **Advanced** tab, the scheduling of the action is defined.

Configure Command Window: Device Tab



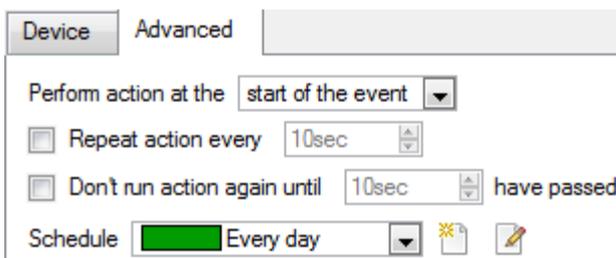
 To select an **Object**, click on the **settings icon**.

This shows all the Objects available on the FSK device.

The **command** drop down will change to represent the commands available to that Object.

Note: The user may only take a global action here, and global actions may only apply to **controllers**. For example, the user may not control **communication channels**, or **door nodes**, as part of an event action. If one of these objects is selected, there will have no options in the *Command* menu.

Configure Command Window: Advanced Tab



Choose to **perform action**: either **at the start** of the event, or once the event triggers have subsided.

The two checkboxes allow the user to set the action to repeat every few seconds, and/or not run for a period after it has triggered.

Schedule is a standard Cathexis schedule, which may be applied to the actions.

7. Conclusion

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

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