



# Paradox EVOxxx Alarm Panel Integration Document

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<sup>1</sup> While Cathexis has made every effort to ensure the accuracy of this document, there is no guarantee of accuracy, neither explicit, nor implied. Specifications are subject to change without notice.

# 1 Introduction

This document will detail the integration of the Paradox Alarm Panel, with CatVision's software. Functionally this integration will entail the triggering of standard CatVision Events, based on the triggers from the Paradox panel.

## **Note:**

1. If you need information regarding the regular operation of a Paradox device, please consult the relevant Paradox documentation.
2. There is a General Integration section in the main CatVision manual. It has vital information about creating an integration database, as well as a general introduction to the Integration Panel. **Read over this section.**
3. Cannot detect the Paradox device if the Controller or Communications channel has lost connection when using the Serial Port.
4. When using an ESP1204 the Communication channel will only show it is disconnected if the network connection to the ESP1204 is down.

## **a. License requirements**

### CALM-2000 CatVision Alarm Panel License

The Paradox device will need to be licensed, on the CatVision software, using the CALM-2000 Alarm Panel Integration license.

## **b. Integration Components**

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

**Device** The device is CatVision software's interface, which handles all the interaction between CatVision and the integrated hardware. When you add an integration to the CatVision system, you add a device. The messages received from the device are called Device Events.

**Objects** Objects are the individual pieces of hardware that comprise the integration. You may have 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 object.

In the case of the Paradox panel the **device** is the panel itself; the object the **zones**, and **areas (areas)**.

### Zone Properties

The zone object represents an input into the alarm system and belongs to a Area. The zones can have the following states:

1. Open
2. Closed
3. Armed
4. Armed (Closed)
5. Alarmed (Closed)
6. Fire Alarmed (Closed)
7. Alarmed (Open)
8. Fire Alarmed (Open)
9. Tampered

10. Bypassed
11. Unknown

**Note:** The polarity of the open and closed states can be configured/reverse depending on how the zone is intended to work, such that either open or closed can indicate active or inactive and open does not necessary imply active. So the zonestate meaning is relative to how it has been set up.

### Area Properties

An area is a set of zones that can be armed/disarmed together by a user. User's rights may be granted on a area by area basis.

The areas can have the following states:

1. Armed
2. Armed (Stay mode)
3. Alarmed
4. Special Alarm
5. Disarmed
6. Disarmed (Ready to arm)
7. About to be armed (Exit delay)
8. About to be alarmed (Entry delay)
9. Unknown

The areas accept the following actions:

1. Arm away
2. Arm stay
3. Arm instant
4. Arm force
5. Disarm
6. Fire panic
7. Medical panic
8. Emergency panic
9. Zone list

## 2 Device Addition and Configuration

### a. Introduction

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

### b. Paradox Specific Integration Setup

You will need a Paradox PTR3 printer module for the integration.

### c. Setting up Paradox for Serial Communication

Follow the instructions below to setup serial communication on the Paradox device.

1. Enter EVO192 Programming on Keypad.
2. Hold **[0] key** + enter **[installer code]**.
3. Enter section **[4003]**.  
**Note:** If you have an EVO DGP-848 serial panel, enter **[953]**.
4. Enter the 8-digit [serial number] of the PRT3 serial printer module.
  - 4.1. Enter **section [016]**:
    - Option [1]: Set this to enable or you will have to route commands through Digiplex software
    - Option [2][3]:

[2]	[3]	Baud Rate
OFF	OFF	2400
ON	OFF	9600
OFF	ON	19200
ON	ON	57600

- Option [4]:
  - Set this to enable to arm/disarm partitions (either does home automation [1] or Event Reporting [0]).
- Option [5] [6]:
  - Disable both options – we use the ASCII protocol.

#### **Note:**

1. Force arm will fail if there are zones active within a partition, and those zones have not been set to be bypassed during force arming:
  - Force Zones (Not to be used with UL Listed systems) SECTION [0400] : OPTION [4] SECTIONS [0101] TO [0196] : OPTION [4] Only zones with option [4] enabled can be bypassed when the partition is Force armed. Fire Zones cannot be Force Zones.
2. Serial port settings (except baud rate) are not configurable. These are the settings:
  - Serial Port: 1 start bit, 8 data bit, no parity and 1 stop bit (8N1)

## d. CatVision Specific Paradox setup

There are two ways to connect the Paradox device to, such that it will work, as an integration with the CatVision software.

- **Connection Options**

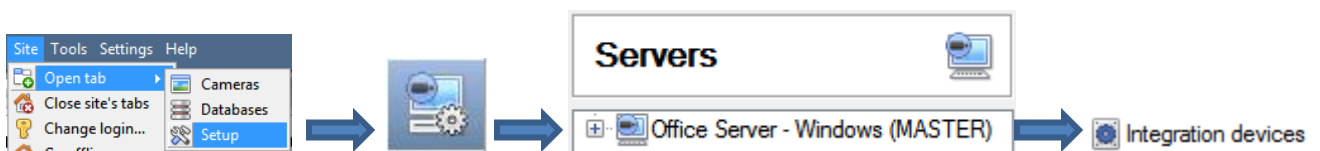
The Paradox device can be connected to the CatVision software via the following channels, under the same license and as the same device:

- RS232
- ESP

## e. Devices Section (Add a New Device in CatVision)

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:


### The Integrations Panel

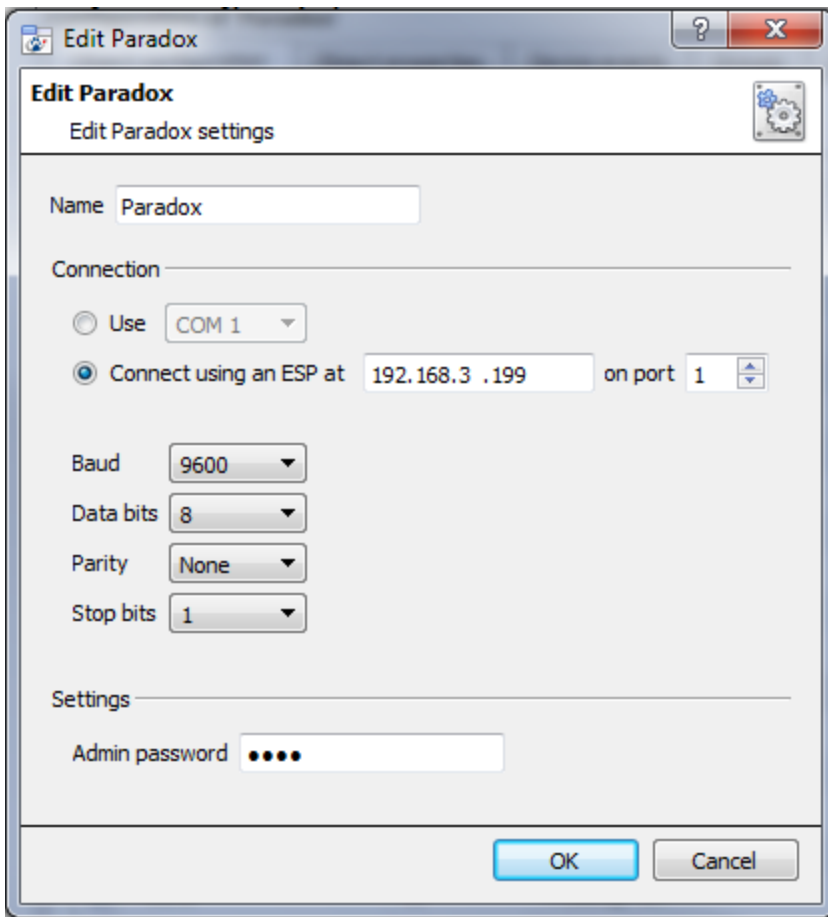


You will notice two sections in the Integration Panel:

1. The **devices** list will list the integration devices that are attached to your integration database.
2. The **Configuration** section enables you to edit/review, the device which you have selected in the **devices** section.

- **Device Addition**

1. Once in the Integration Panel, in the devices section, click on . This will open the addition window.
2. Select **Paradox Alarm Panel** from the list.



Give your device a descriptive **name**.

Choose the right **connection**. If you are using RS232 this is the COM port number. If you are using an ESP, then input the correct IP address.

**Note:** The ESP can take 4 serial connections (represented as 'port' here). So make sure that you have selected the correct port number.

Make sure the **baud rate, data bits, parity, and stop bits** match the relevant settings on your Paradox panel.

The password settings here are those that are set on your Paradox Panel.

## f. 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.**

### Object Configuration Tab

The object configuration tab is the tab where you may view all the individual objects that comprise the integration.

- **Object Configuration Buttons**

New

You may add a new object by clicking on New.

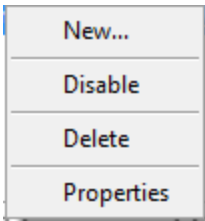
Edit

Will open up an existing object for edition.

Delete

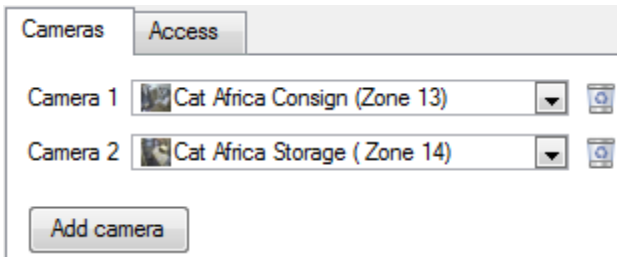
Is used to delete an existing object from the CatVision configuration.

• **Object Configuration Right-click Options**




**New** will open up the dialogue to add a new object.  
**Disable/Enable** allows you to manually enable/disable individual nodes.  
**Delete** will permanently remove this object from the list.  
**Properties** will open up the object properties. You may edit the object from here. (Specifically you will be able to assign cameras to this object, as well as define user access levels for it.)

**Properties: Cameras**



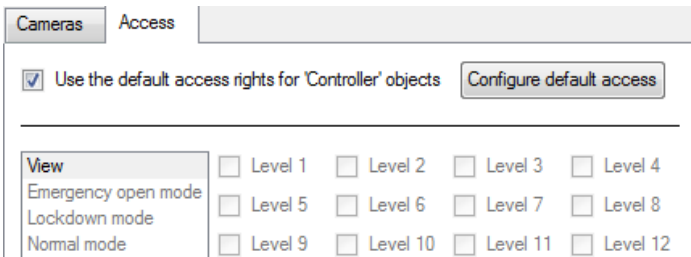
Adding a camera to an object will mean that, whenever there is an event on that object, the recording from that camera will be related to the time and date of the object event, in the Integration database.

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

To delete a camera click on .

**Note:** If you do not have *continuous recording* setup, on associated cameras, you will run the risk of zones (object) triggering while the cameras are not recording. To only record cameras, when an object triggers, you will need to setup **Events** that trigger a recording, when one of these objects is activated.

**Properties: Access**



**Access** allows you to protect sensitive objects, by only allowing certain levels users access to them.

You will see a list of objects, whose access level you may set.

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

**Objects Properties Tab**

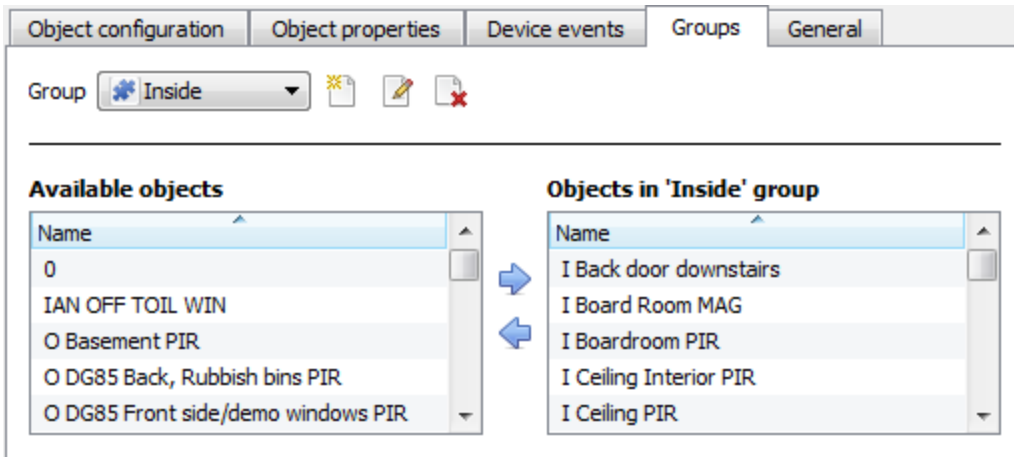
The Object properties tab allows you to view the objects, sorted by type. In the case of the Paradox device you will have the options of viewing by **area**, or **zone**.

**Device Events Tab**

This will list real time events happening on this device. It is an excellent way for installers to see that the integration is functioning, and to monitor the live events happening on site.





## Groups Tab

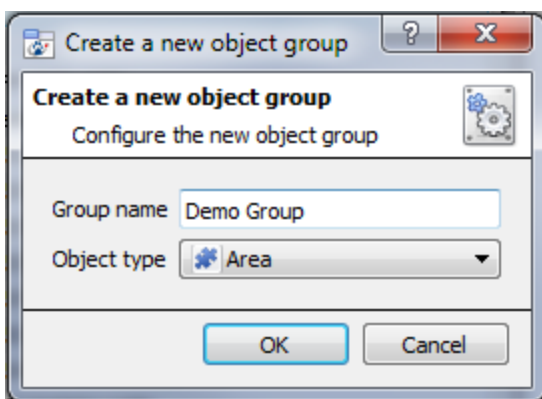


You can create groups of the same type of object.

**Tip:** This is very useful when setting up Events, because events can be triggered by an object group. (E.G. a group will trigger, if any of the zones/areas in that group is triggered.)

### • Create a Group

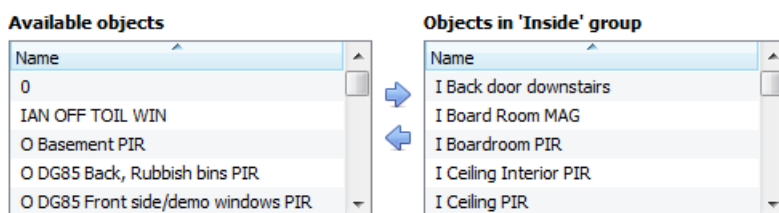
To create/edit a group click on  / . (**Note:** Once a group has been created, you may not edit the object type of the group.)





When creating a group you will select what object type to include in the group. Once the group is created the available objects panel will fill up with all available objects of that type. From this list you will choose which objects you want to use in your Group.

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

Click on the drop-down menu to select the **object type** that you would like to group.



You will then see a list of Available Objects. To add/remove these objects to the group select them (you may select multiple at a time), and click on  / .


## General tab

Currently the general tab deals with the integration database. Here you will be able to select a pre-created database, or you will be able to configure a new database.

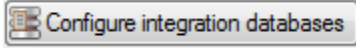
- *Select an Integration database*

Integration database



To select a database click on , and select the relevant database. Only databases which relate to the device you are adding should appear.

- *Configure a new database*



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

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

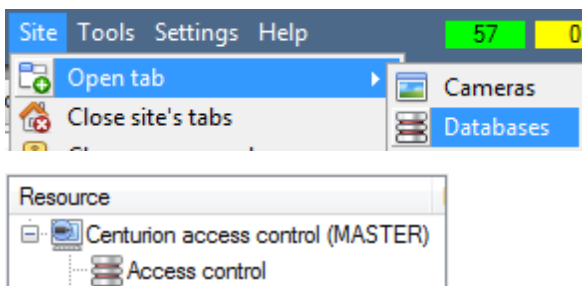
## 3 Database

### a. Introduction

The database tab will allow you to navigate the databased entries, for each individual database. In the database 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 you will also be able to launch this recording, from within the database tab.

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

### b. Navigate to the Database

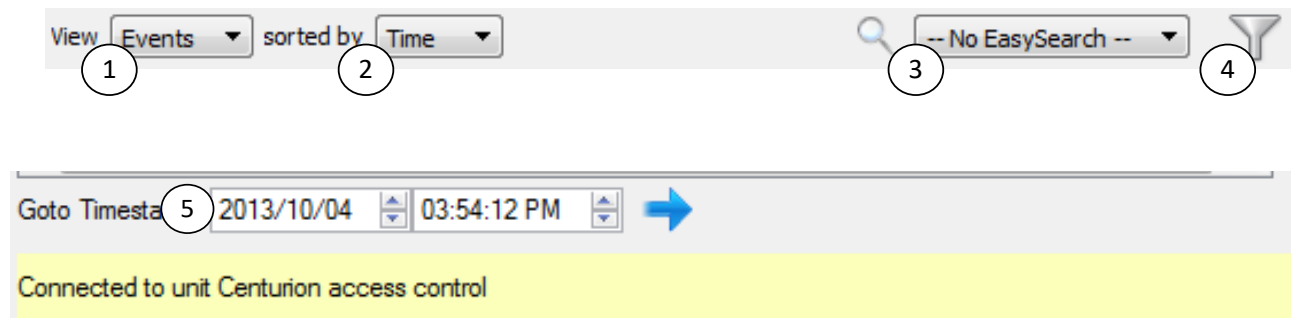


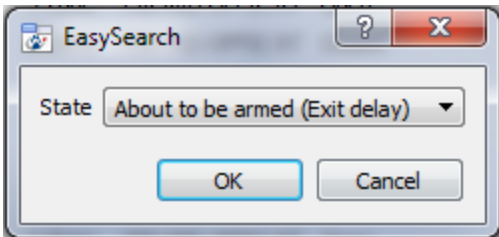
You may view the information stored in the Integration database, by following the path you see to the left.







This will take you to the Database Tab.

Once in the databases tab you will have to select the relevant integration database. The databases are ordered under the NVRs that they are attached to.

### c. Database Interface




① <b>View</b>	You may change the way that your database is presented. Some integration databases have multiple view options. The Paradox database simply has <b>Events</b> .
② <b>Sorted By</b>	You may sort the Events based on the following parameters: <b>Time, ID, Type, and State</b> .
③ <b>Easy Search</b>	<p>The easy search option allows you to quickly search the database within one of the following options: <b>Object, State and Type</b>.</p>  <p>Selecting an option will present a popup dialogue with a list. In this example we selected state, and can select from a predefined list of states. Clicking OK will immediately filter the database by this criteria.</p>


<p>④ <b>Filter</b> </p>	<p>Filter offers a more advanced manner of sorting information in the Integration Database table.</p> <p>You are able to filter based on the following parameters: <b>Time, ID</b> and <b>Type</b>.</p> <p>Once you have the filters dialogue open you will have the following options:</p> <ol style="list-style-type: none"> <li>1. To <b>enable</b> filters check this box: <input checked="" type="checkbox"/> Enable filters</li> <li>2. To <b>add</b> a new filter click on .</li> <li>The filter icon  will change to  when filters are active.</li> <li>3. To <b>delete</b> an added filter click on .</li> </ol> <p><b>Note:</b></p> <ol style="list-style-type: none"> <li>1. You may run multiple filters simultaneously. And you may even filter using the same parameter more than once.</li> <li>2. To change a filter click on the blue hyperlinked text. (For example, click on <a href="#">Timestamp</a> to change the filter from Timestamp, to any of the other available options.)</li> </ol>
<p>⑤ <b>Go to Time</b></p>	<p>This will allow you 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, and the click on the  icon.</p>

### Viewing an Entry's Associated Recording



If you have attached cameras to device objects in the Integration setup, and have set these cameras up to record continuously, each Integration database entry will have a corresponding recording. To view a databased event's recording double click it. A floating replay window will appear, from which you may review and archive video content.

 will give you the view to the left.

 will break down the image into 4 sequential frame viewers.

## 4 Events

### a. Introduction

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

Most of the data that CatVision 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* for being used as an event trigger, or action.

### b. Creating and Event

To create an event using the Paradox device, enter the Events management area:



1. Once in Events management click on . This will open up the New Event window.
2. Once in this window, select the Triggers tab and click on the hyper link titled, [standard triggers](#).
  - a. From the menu that drops down, left-click the Paradox device that you want to trigger the event with.

#### • *While/When and Any/All*

When triggering on a specific Paradox zone or area you will have the option to trigger **while/when** a trigger is active. You will also be able to select multiple triggers, and define whether **all/any** of the triggers need to be active to set-off an event.

Use [caddx](#) to trigger the event

Trigger using [any partition](#)

[Start actions when](#) [any of the properties meet the following criteria](#)

As usual, to change these settings click on the related, blue, hyperlinks.

### c. Triggers

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).

#### Set your device as the trigger

Use [paradox](#) to trigger the event

Trigg

Perfo

Des

'sta

standard triggers  
trigger template  
paradox

If you are creating a new event, the trigger type will default to: Use [standard triggers](#). To define which device you want to trigger the event, click on the hyperlink after “use”. To set it as the Paradox device, click on the hyperlink, and select the relevant device name from the dropdown menu.

## Trigger Types (Trigger Using)

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

Use [paradox](#) to trigger the event

Trigger using [zones in group 'Inside'](#)

Perform action


Description	any area
'state' equal	any zone
'state' equal	zones in group 'Inside'
	zones in group 'Store rooms'
	zones in group 'Outside'
	areas in group 'Valid areas'
	specific area ▶
	specific zone ▶

**Any partition** will activate on the defined triggers for all partitions.


**Any zone** will activate on the defined triggers for all zones.

**Groups (Zone/Area)** will trigger when an event occurs in any of the chosen object groups.

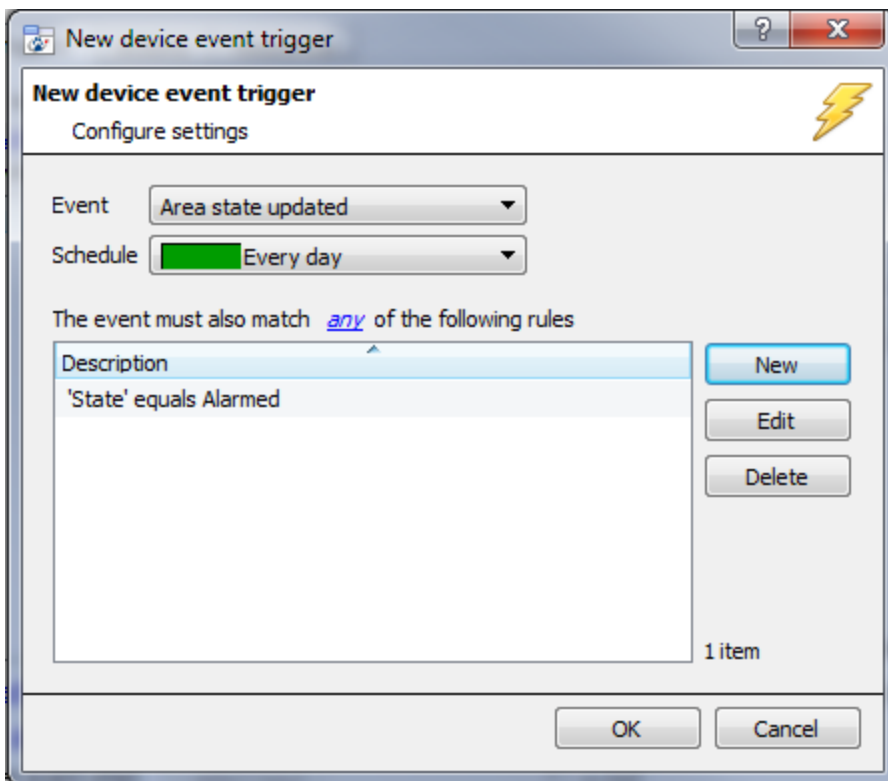
**Any device event** will trigger, initially, when any event occurs on the device. Within the “any device event” setup you may set “device event rules” which will constrain which events will trigger the event.

**Note for group triggers:** If you want this event to be databased under the name of a specific object, and not the name of the triggering group, you will need to modify the Description field in the **General tab** of the Event setup. Click on the  to see a list of available 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

After selecting a master trigger type, you will need to add a trigger to the event. Click on  in the Triggers tab. This will bring up the dialogue box you see below:

- **Any Device Event**



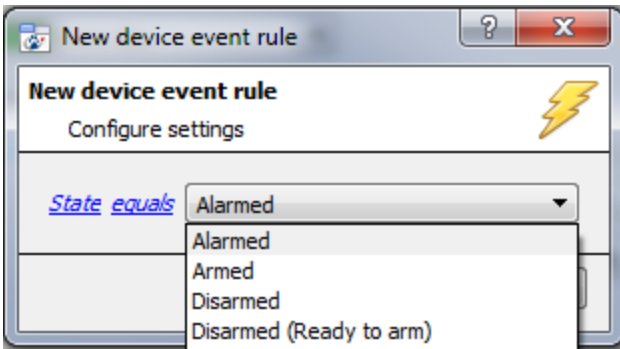
The dialog box is titled "New device event trigger" and has a "Configure settings" section. It contains the following fields and controls:

- Event: Area state updated (dropdown)
- Schedule: Every day (dropdown)
- The event must also match [any](#) of the following rules
- A list of rules with the following description: 'State' equals Alarmed
- Buttons: New, Edit, Delete
- Bottom buttons: OK, Cancel

For example within the [any device event](#) option you may choose what type of device Event will be your trigger. Choose from the drop-down menu. The Paradox device offers **Area added, Area state updated, Problem, System Event, Zone added, and Zone state updated**.

**Note:** You may set multiple constraints. Choosing if [any](#), or [all](#) constraints need to be fulfilled to set off a trigger. If you do not define a constraint literally every single device event will trigger this event.

To add/edit/delete a rule (a constraint) use the New, Edit, and Delete buttons on the right hand side.



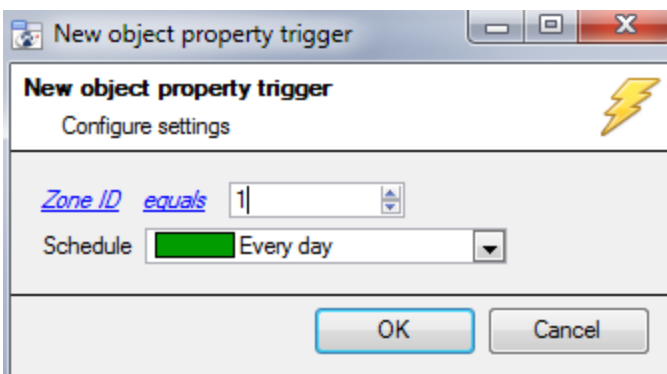
To change the constraint click on the first hyperlink, this will bring up the full list of available rules.

To modify the way this rule will be treated click on the second hyperlink (*equals* in the example) this will show you the rules options.

**Note:** When all available options are known to CatVision you will see a drop-down menu. When these variables are not pre-defined you will need to fill them in yourself. The information pulled through to the events is information sent to CatVision from the Paradox device, see the Paradox settings for the strings needed here.

- ***Any/Specific Zone/Area/Group***

The non-**Any Device Event** triggers have a slightly different setup window. In these instances you do not need to set constraints, since you are essentially adding them one at a time. This option is better if you have a select few triggers that you want to use.



Since you are only using one type of object to trigger the event in this instance, the dialogue will appear as the **New Device Event Rule** window did previously.

You may set a **schedule** on this rule as well



**Note:** this is true for groups too, since a group may only be made up of one object type.

## d. Actions

Once you have defined the triggers that are going to initiate your event, you will need to define some Actions. While the most common action in a CatVision integration is to use the integrated device's trigger to record a camera, you may also *control* a Paradox device.

- ***Open Actions Tab and Select the Paradox Device***



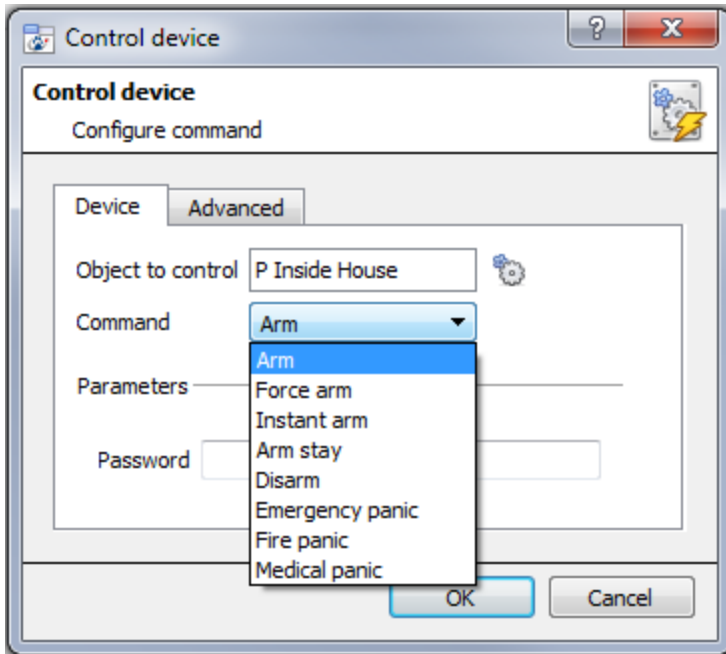
To get started left-click on the tab titled "Actions", and click on . A menu will drop down containing all the available action types. The device action type is represented by this icon: .


It will say "Control..." and the name of your Paradox device e.g.  Control Paradox...

## Control device

This will 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.

- **Device**



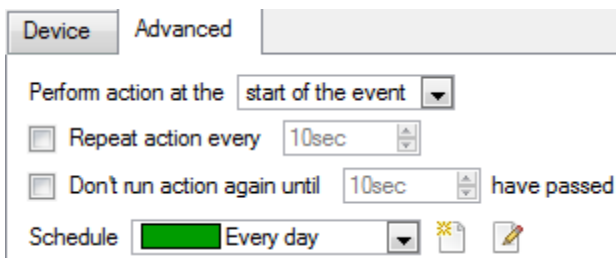
To select an **Object** click on the  icon. This will give you a selection of all the Objects available on the Paradox device. Paradox offers control of areas here.

The **command** drop down will change to represent the commands available to that Object. The Paradox area commands available are visible in the screen capture, to the left.

You will need to enter the Paradox **password** here.

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

- **Advanced**



You may choose to **perform action 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 you may apply to the actions.



## 5 Conclusion

Please remember that this appnote was designed to deal specifically with this integration. For further information about the CatVision software please consult the main manual (<http://cathexisvideo.com/>).

For support please contact [support@cat.co.za](mailto:support@cat.co.za)