



DSC IT 100 Alarm Panel Integration

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¹ 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 [DSC IT 100 Alarm Panel](#) with CathexisVision's software. Functionally this integration will entail the triggering of standard CathexisVision Events, based on the triggers from the DSC panel.

- **DSC Integration Features:**

1. Integration database.
2. Object and message based event triggering.
3. Partition and zone state monitoring.
4. Actions:
 - a. Triggering of panic, fire and medical alarms.
 - b. Arming/disarming of partitions.

Notes:

1. If you need information regarding the regular operation of a DSC device, please consult the relevant DSC documentation.
2. There is a General Integration section in the main CathexisVision 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 DSC 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 CathexisVision Alarm Panel License

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

b. 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 you add an integration to the CathexisVision 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.

Objects

Panel	Physical alarm panel or module communication with DSS.
Zone	Various sensor devices.
Partition	Grouping together of zones. User rights are assigned to a group. Zones within a group are armed and disarmed together.

Meaning of panel states

Online	Connection between panel and DSS has been established. Panel is responding to ping polling.
Offline	Connection between panel and DSS has been lost. Partition and Zone objects will be set to unknown.

Meaning of zone states

State	Meaning
Unknown	Startup condition or after the connection has gone down.
Ready	Zone is not active nor its partition armed.
Open	Zone is active but its partition is disarmed.
Tamper	Zone wiring has a problem. Check EOL resistor. Devices likely to be disabled.
Alarm	Zone is active and its partition has been armed.
Faulted	Zone device needs maintenance and is not functional.

Meaning of partition states

State	Meaning
Unknown	Startup condition or after the connection has gone down.
Ready	Partition is disarmed and can be armed.
Not Ready	Partition is disarmed but Zone are active and it cannot be armed.
Alarmed	Partition that was armed has a Zone that has been activated.
In exit delay	Partition grace period for exit after being armed.
In entry delay	Partition grace period for entry before being disarm.
Armed away	Partition is fully armed.
Armed stay	Partition is armed only with Zones marked as being on the perimeter.
Instance Armed away	Partition is armed with no exit or entry delay.
Instant Armed stay	Partition is armed with no exit or entry delay.
Armed night	Partition is armed with Zones mark for use at night.

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. CathexisVision Specific DSC setup

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

- **Connection Options**

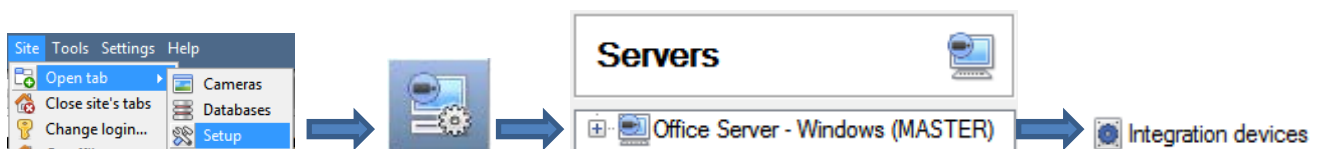
The DSC device can be connected to the CatVision software via the following channels, under the same license and as the same device:

- RS232
- ESP

c. 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:


The Integrations Panel

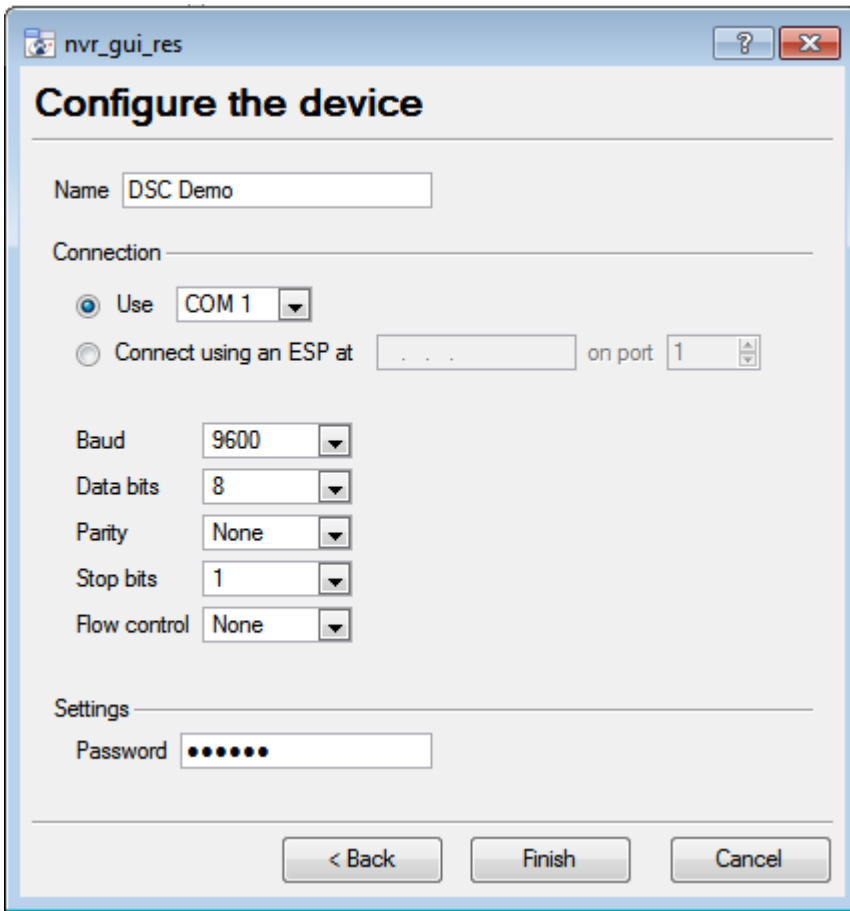


You will notice two sections in the Integration Panel:

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 **DSC IT 100 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 DSC panel.

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

d. 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**.

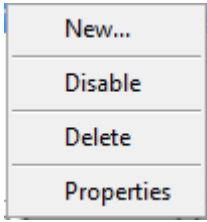
Object Configuration Tab

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

- **Object Configuration Buttons**

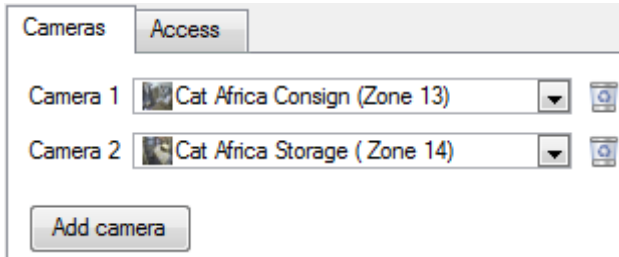
- | | |
|--------|---|
| New | You may add a new object by clicking on New. |
| Edit | Will open up an existing object for edition. |
| Delete | Is used to delete an existing object from the CathexisVision configuration. |

• **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



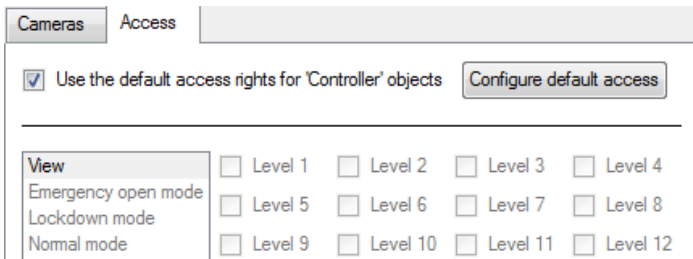
Adding a camera to an object will mean that, whenever there is an event on that object, the recording from that camera will be related to the time and date of the object event, in the Integration database.

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.

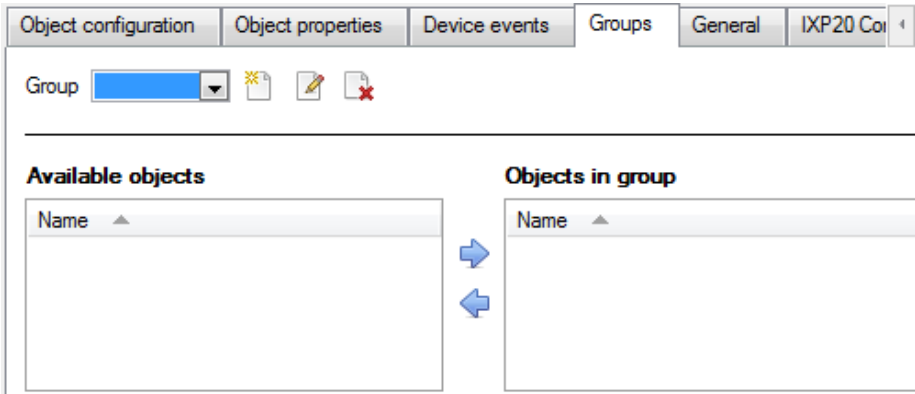
Objects Properties Tab

The Object properties tab allows you to view the objects, sorted by type. In the case of the DSC device you will have the options of viewing by **controller, partition, 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

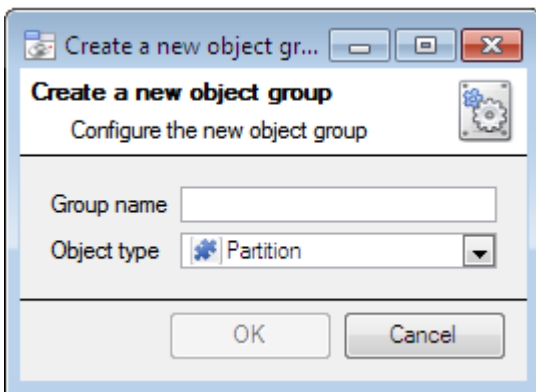


You can create groups of the same type of object.

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/partitions in that group is triggered.)

• Create a Group

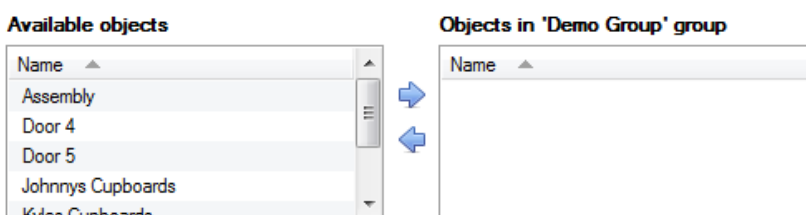
To create/edit a group click on  / . (**Note:** Once a group has been created, you may not edit the object type of the group.)





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  / .

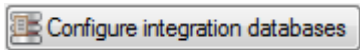
General tab

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 CathexisVision Setup Manual.

3 Events

a. Introduction

A CathexisVision 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 DSC 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 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 DSC 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 DSC device that you want to trigger the event with.

• *While/When and Any/All*

When triggering on a specific DSC zone or partition 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 [dsc](#) to trigger the event

Trigger using [any partition](#)

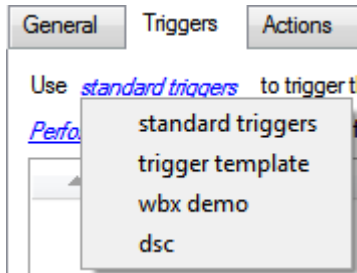
[Start actions when any of the properties meet the following criteria](#)

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).

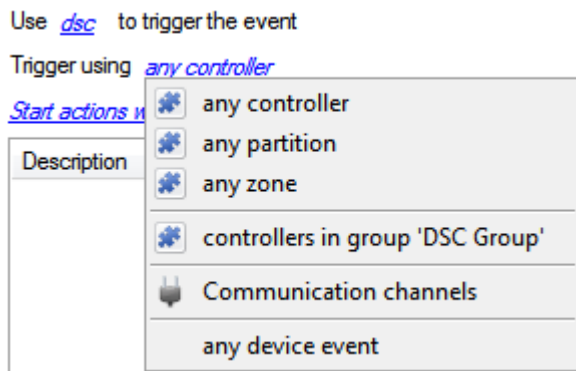
Set your device as the trigger



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 DSC 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**.



Any controller will activate on the define triggers for all controllers.


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.

Specific Area/Zone Will trigger on activity in a specific area/zone.

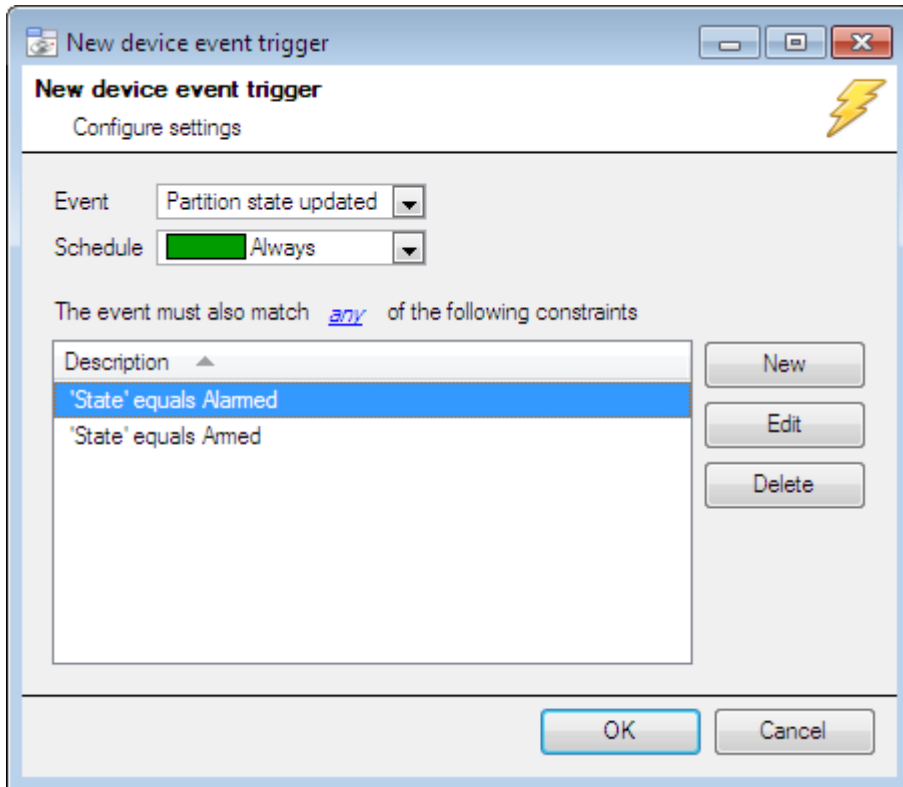
Any device event will trigger, initially, when any event occurs on the device. Within the “any device event” setup you may set “device event rules” which will constrain which events will trigger the event.

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 “Zone Name:” along with the name of the zone 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:

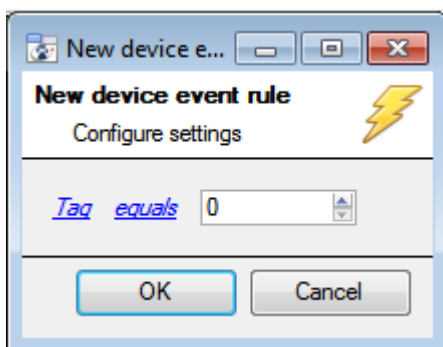
- **Any Device Event**



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 DSC device offers **Partition state updated**, **Problem**, 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.



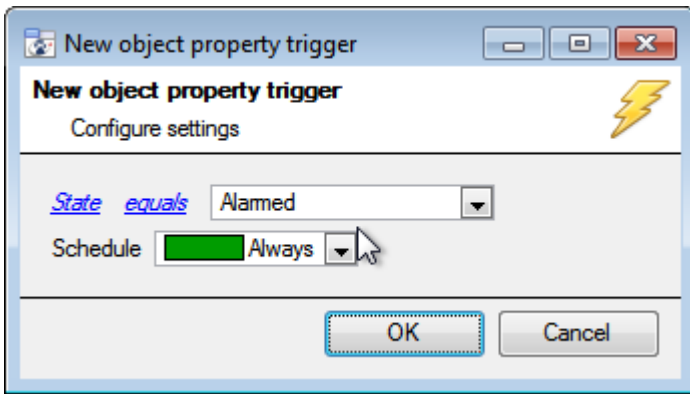
To change the constraint click on the first hyperlink, this will bring up the full list of available rules.

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 CathexisVision 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 CathexisVision from the WBX device. See either the WBX settings, or the information in the Device Events Tab, for the strings needed here.

- **Any Zone/Partition/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.

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 CathexisVision integration is to use the integrated device's trigger to record a camera, you may also *control* a DSC device.

The DSC integration will allow for the following controls:

- a. Triggering of panic, fire and medical alarms.
- b. Arming/disarming of partitions.

• *Open Actions Tab and Select the DSC Device*



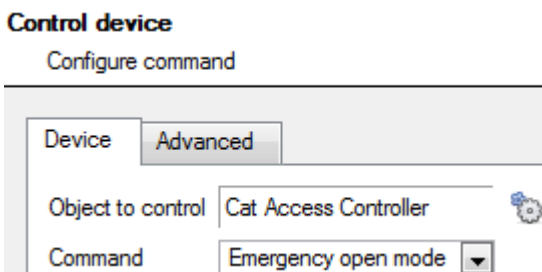
To get started left-click on the tab titled "Actions", and click on . A menu will drop down containing all the available action types. The device action type is represented by this icon:

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

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 DSC device.

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

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*

Device **Advanced**

Perform action at the ▼

Repeat action every ▼

Don't run action again until ▼ have passed

Schedule ▼  

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.

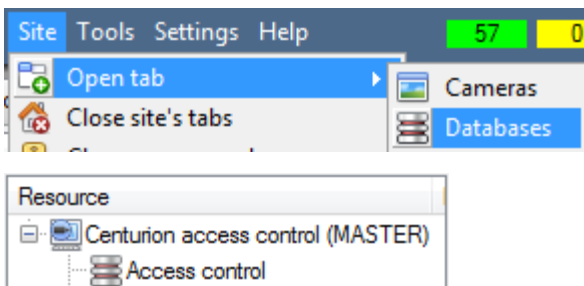
4 Database

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 CathexisVision by the integrated device.

b. Navigate to the Database

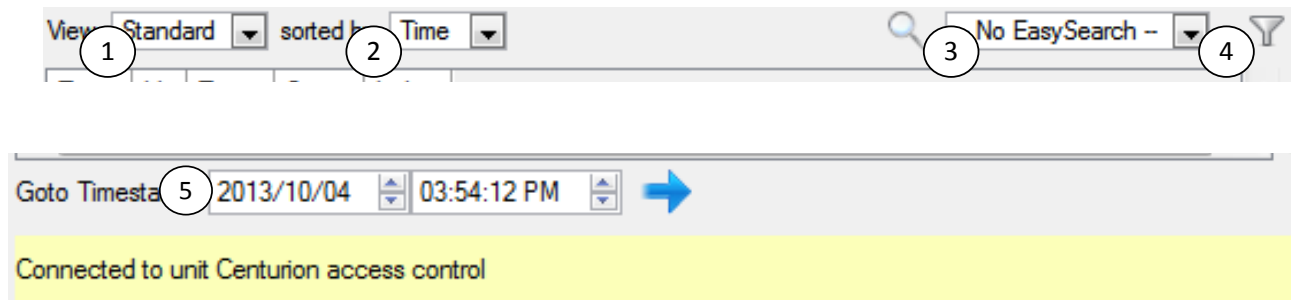



You may view the information stored in the Integration database, by following the path you see to the left.






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 View	You may change the way that your database is presented. Some integration databases have multiple view options.
② Sorted By	You may sort the Events based on the following parameters: Time, ID, Type, and State.
③ Easy Search	The easy search option allows you to quickly search the database within one of the following options: Type.ID, Type, and State.
④ Filter 	<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: Time, ID, Type.ID, Type, and State.</p> <p>Once you have the filters dialogue open you will have the following options:</p>


	<ol style="list-style-type: none"> 1. To enable filters check this box: <input checked="" type="checkbox"/> Enable filters 2. To add a new filter click on . The filter icon  will change to  when filters are active. 3. To delete an added filter click on . <p>Note:</p> <ol style="list-style-type: none"> 1. You may run multiple filters simultaneously. And you may even 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 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.

5 Conclusion

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

For support please contact support@cat.co.za