Commend Intercom Integration App-note

24 January 2022

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1. Introduction

This document will detail the integration of the Commend Intercom system with CathexisVision. Functionally this integration will entail the triggering of standard CathexisVision Events, based on calls between intercoms.

Note:

- For information regarding the regular operation of a Commend Intercom device, please consult the relevant manufacturer's documentation.
- 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.**

1.1 License Requirements

License No.	License Name	Description
CCMD-2000	Commend Intercom Device license.	This licenses a single Commend Intercom device.

Note: In this integration, individual devices will require a license for each device.

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.

1.2 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.

In the case of the Commend system, the **device** is the integration itself; the objects are the **terminals.**

1.3 Features and Abilities

- CathexisVision receives event messages from the Commend Intercom device.
- System and intercom device event messages can be used to trigger a CathexisVision system event.

1.3.1 Device Objects

Objects are populated automatically as soon as communication between the Commend Intercom system and CathexisVision is established.

Object Type		Abilities
General		• This integration has Intercom, Output, Server and Communication channel objects. • Objects are automatically created as soon as communication between the CathexisVision unit and device is established. • Device objects can be commanded as an action of a CathexisVision system event. • Device objects support overlays. • Objects may be linked to cameras to associate device events with video footage.
Intercom	**Object Properties**	• Name. • Used for camera links to metadatabase and for overlays.
Output	**Object Properties**	• Open. • Closed. • Pulsed.
	Command	• Open. • Close. • Pulse.
Server	**Object Properties**	• Displays whether connected to the server.

1.3.2 Device Events

The CathexisVision Commend Intercom integration generates intercom Events, which are triggered on the device and reflected in CathexisVision.

Event Element	Features/Abilities
General	Events triggered on the device are sent to CathexisVision and can be used to create CathexisVision system events. Device event types are:
Device Event Types	• Call ended. • Call interrupted.

	• Call started. • Server status.
CathexisVision Event Actions	An **output** object may be controlled via a CathexisVision event action to perform one of the following commands: • Close. • Open. • Pulse.

1.3.3 Metadatabase

A unique metadatabase is created on the CathexisVision server for this integration. It is fully searchable, with configurable filters based on device event information (as above), and time stamping. The filtered event/s, and the associated video, will then be available for review in a new window from which an archive can be created and exported.

Database Element	Features/Abilities
General	• All device events are databased. • Database entries include the footage from cameras linked to device objects. • Multiple cameras may be linked to multiple objects. • Device event metadata is displayed where applicable. • Databased device events may be viewed in the embedded video player, which includes the usual CathexisVision video review tools.
View Options	• Server. • Events.
Sort Options	• Time.
Easy Search	• Intercom 1. • Intercom 2.
Filter	• Start time. • End time. • Intercom 1. • Intercom 2.
Export	Database entries may be exported in **CSV** and **PDF** format.

1.3.4 Maps

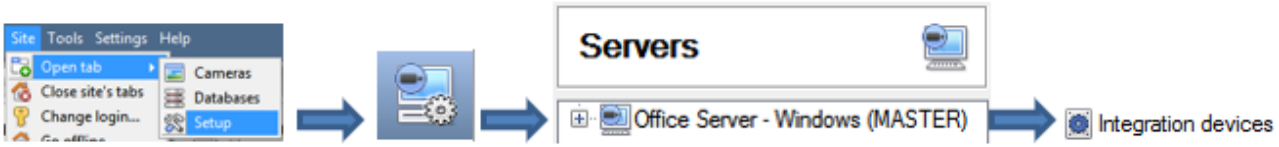
The CathexisVision GUI provides for configurable site maps that feature multi-layered, hierarchical, interactive interfaces providing representation and control of a site and its resources.

Map Element	Features/Abilities
General	Device objects can be embedded in a site map, which offers multiple action options when messages are received from the device, the device triggers an event, and/or the user manually initiates a map action.

Map Action Triggers	• All device objects may be set to trigger a map action if the user left-clicks on map. • Some device objects may be set to trigger a map action if a state change message is received from the device. • All device objects may be set to perform a map action if *any* event occurs on the device. • Device objects, which can be configured to trigger CathexisVision events, may also be set to perform a map action when specific CathexisVision events are triggered.
Map Actions Options	When triggered (see above), objects may perform the following map actions (where applicable): • Connect to a site. • Perform an animation. • Go to a camera preset. • Load a map. • Set a PTZ relay output. • Show a popup menu. • Set a relay output. • Show an HTML block. • Show a block of text. • Show a device popup menu.

2. Device Addition and Configuration

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:



There are two sections in the Integration Panel:

1. The **Devices** list will list the integration devices that are attached to the integration database.
2. The **Configuration** section enables the user to edit or review the device selected in the **Devices** section.

2.1 Commend Specific Setup

The Commend Intercom integration communicates with the CCT800 software package (available on the Commend website) to receive device information. The communication medium (between the Commend Intercom device and CathexisVision) can be either via RS232 serial connection, or TCP over Ethernet.

2.1.1 TCP over Ethernet

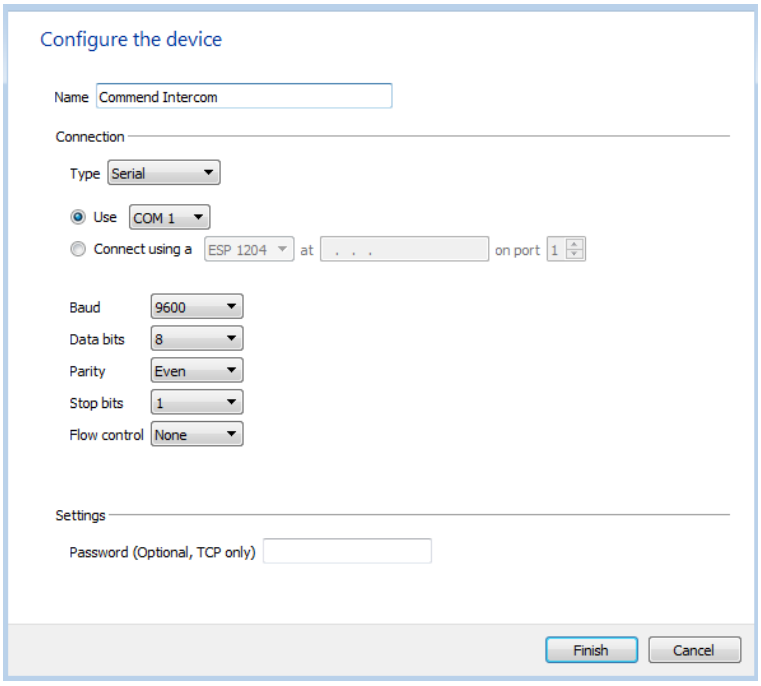
If TCP over Ethernet is used, the CCT800 software package needs to be configured to send data to the NVR's IP address and port (as set up when the integration device is created on the NVR).

2.2 Devices Section (Add a New Device)

1. Once in the Integration Panel, in the devices section, click on New device. This will open the addition window.

2. Select the **Commend Intercom** driver.

2.2.1 Add the Device



Give the device a descriptive **name**.

Select the **Connection Type**.

Note: If selecting TCP connection type, then the CCT800 software package needs to be configured to send data to the NVR's **IP address** and **port number** – configured here.

Set the **Baud**, **Data bits**, **Parity**, **Stop bits** and **Flow control**.

Set an optional **password** to be used with the TCP connection for extra security.

2.3 Configuration Section (Tabs)

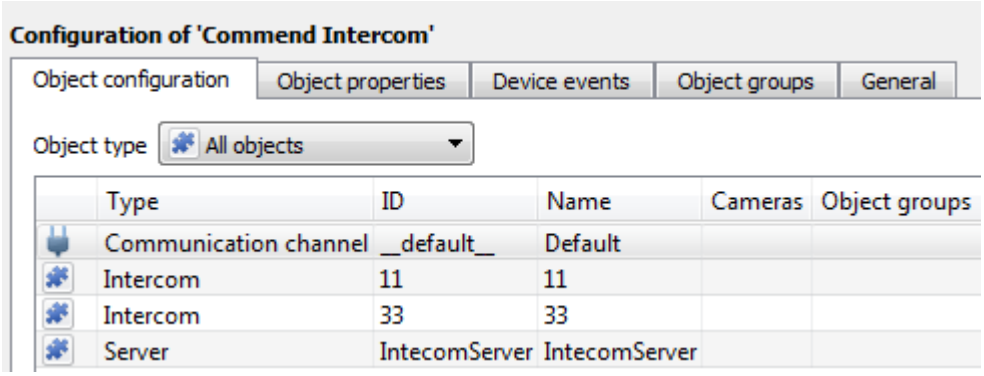
The configuration section is divided up into a number of Tabs. The available tabs are: **Object configuration, Object properties, Device events, Groups, General.**

The Commend Intercom objects will be automatically added to the system once events are received from the device and objects generated.

2.3.1 Object Configuration Tab

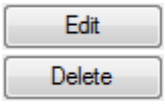
The object configuration tab is the tab where the individual objects that comprise the integration may be viewed. The Commend Intercom integration objects are **Intercom, Output, Server** and **Communication**.

In this tab, the **Names, Cameras** and **Groups** assigned to each object are visible.



2.3.1.1 Object Configuration Buttons

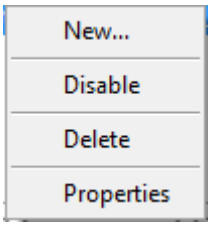
In the case of the Commend device, existing objects are detected automatically. However, output objects may be configured. See below.



Click **Edit** to change an existing object.

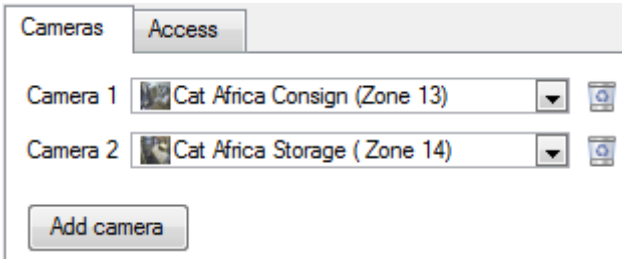
Click **Delete** to remove an existing object from the CathexisVision configuration.

2.3.1.2 Object Configuration Right-click Options

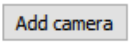


New allows objects to be created.
Disable/Enable allows individual nodes to be enabled or disabled.
Delete will permanently remove this object from the list.
Properties will open up the object properties. The object may be edited from here. (Specifically, this is where cameras and user access levels are assigned.)

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.

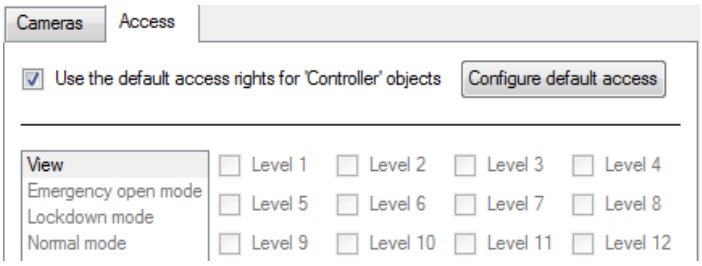


To add a camera, click the **Add camera** button, and select the relevant camera from the drop-down menu.

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

Note: If ***continuous recording*** is not set up on associated cameras, it runs the risk of zones (object) triggering while the cameras are not recording. To only record cameras, when an object triggers, setup **Events** that trigger a recording, when one of these objects is activated.

Properties: Access

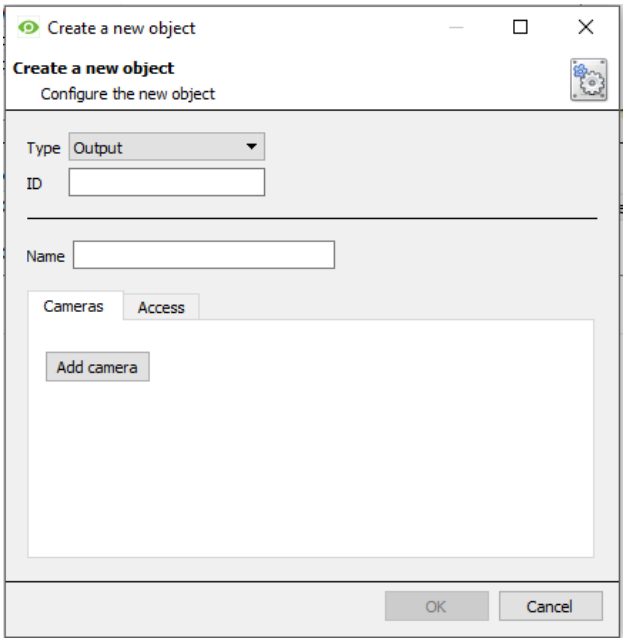


Access allows sensitive objects to be protected by only allowing certain levels users access to them.

A list of objects for which access levels may be set, is visible.

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.

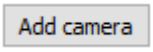
2.3.1.3 Configure New Output Object



Select **Output** from the Type drop-down menu.

Enter the **Caller Number** as the object's **ID**.

Give the object a descriptive **name**.

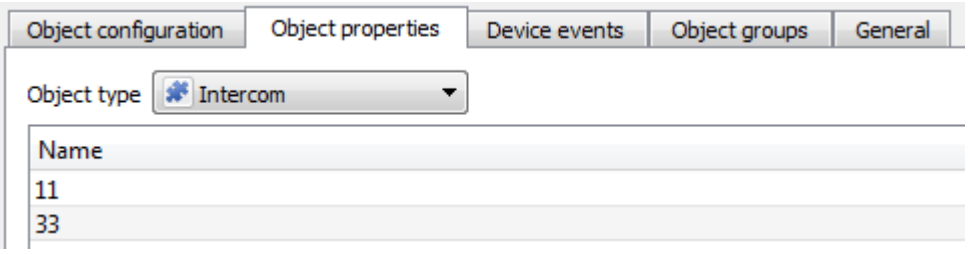


Click **Add camera** to add a camera to the object.

Configure the access rights in the **Access tab**.

Click OK when done.

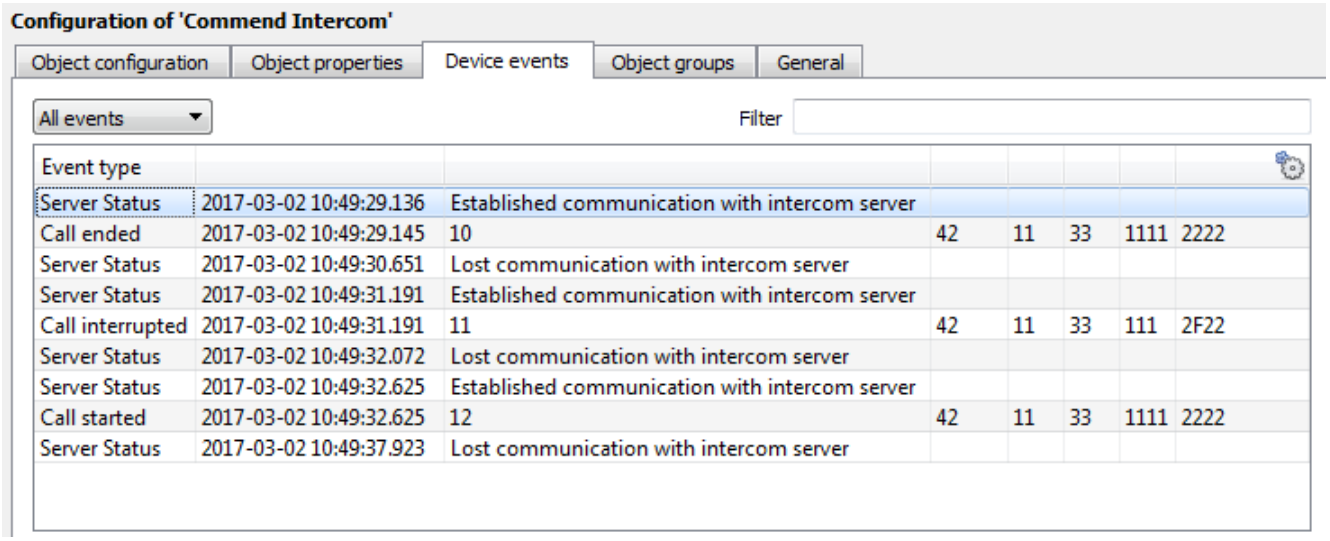
2.3.2 Objects Properties Tab



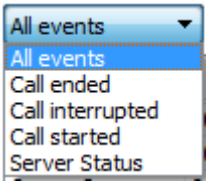
The Object properties tab displays the objects, sorted by type. In the case of the Commend device, the object types available are Intercom, Output, Server and Communication Channel.

2.3.3 Device Events Tab

The Device events tab will list real time events happening on this device. It can be used to monitor the functioning of the integration and the events on site.

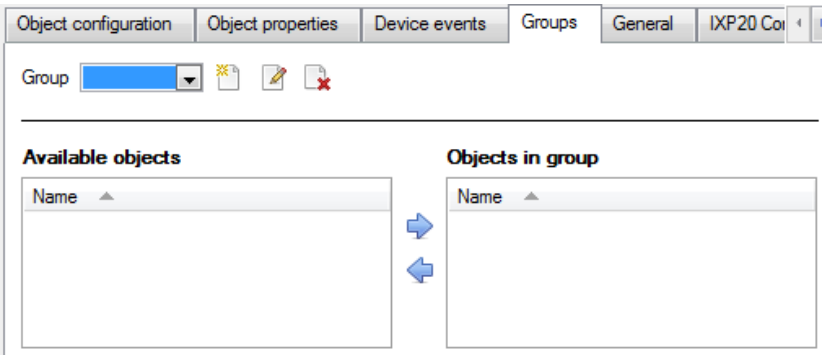


Events may be viewed by type:



Note: When navigating away from this window, the device events for that session will disappear but will still be accessible in the integration metadata base. Please see **Section 3 Database** for more information on navigating to and interacting with the database.

2.3.4 Groups Tab



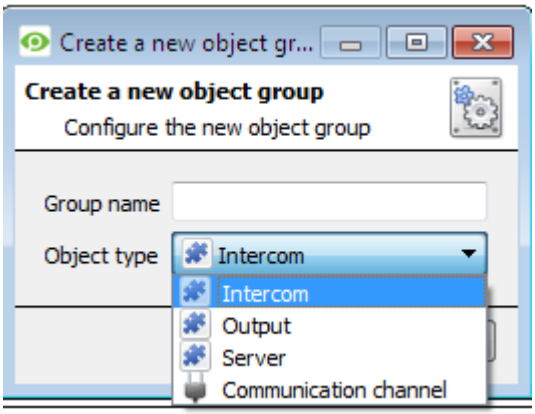
Groups of the same type of object may be created.

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 objects in that group are triggered.)

2.3.4.1 Create a Group

To create/edit a group click on / .

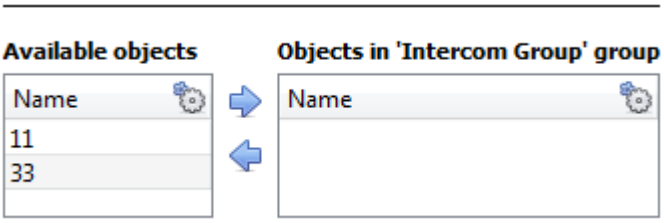
Note: Once a group has been created, the object type of the group may not be edited.



When creating a group, 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, choose which objects to use in the Group.

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

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



There is a list of Available Objects. To add/remove these objects to the group, select them (it is possible to select multiple at a time), and click on / .

2.3.5 General Tab

Currently the general tab deals with the integration database. Here, select a pre-created database, or configure a new database.

3.3.5.1 Select an Integration Database

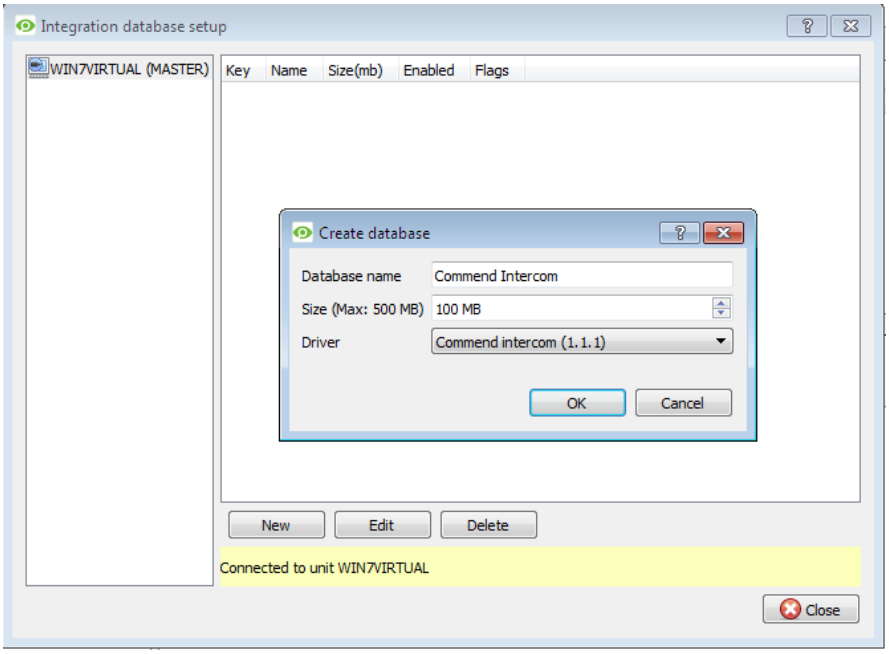
If an integration specific database has already been created, select it by clicking the settings icon.

Only databases relevant to the integration being added should appear.

If a database has not been created, see below.

3.3.5.2 Configure a New Database

If there is no database created yet, clicking on this button will take open the integration database setup.
Click **New** to create a database.



Give the database a **Name**.

Select the **Size** of the database. The max is 100MB.

Select the **Commend Intercom** driver.

Click **OK** when done.

Select the newly created database by clicking the settings icon and selecting it from the drop down menu.

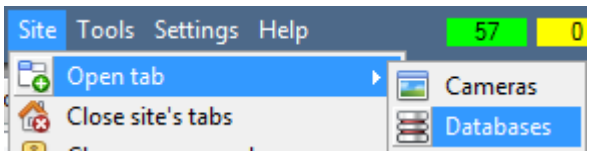
Note: The information on setting up an integration database may be found in the **Integration Devices General Settings** section of the CathexisVision Setup Manual.

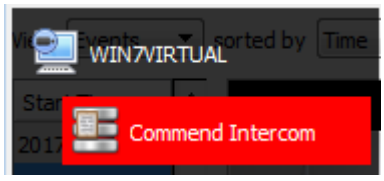
3. Database

The database tab will allow the user to navigate the records in 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 record has an associated recording, the user 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.

3.1 Navigate to the Database





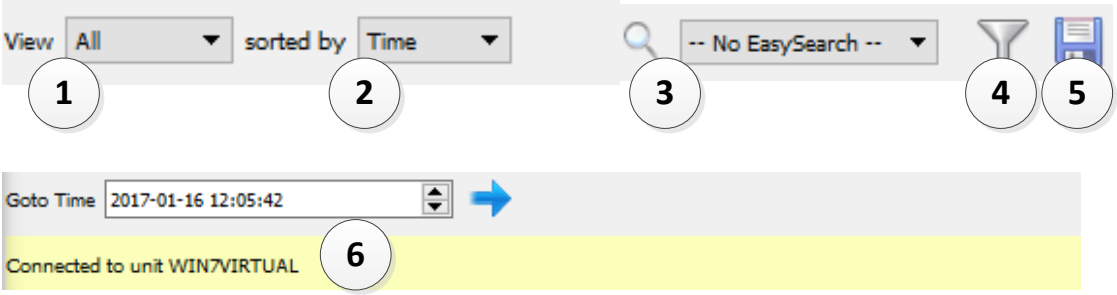
To view the information stored in the Integration database, follow the path to the left.

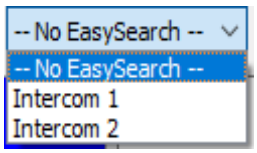
This will open the Databases Tab.

Once in the Databases Tab, select the relevant integration database. The databases are ordered under the NVRs that they are attached to.

Hover over the arrow on the left-side of the camera image to bring up the database panel on the left.

3.2 Database Interface

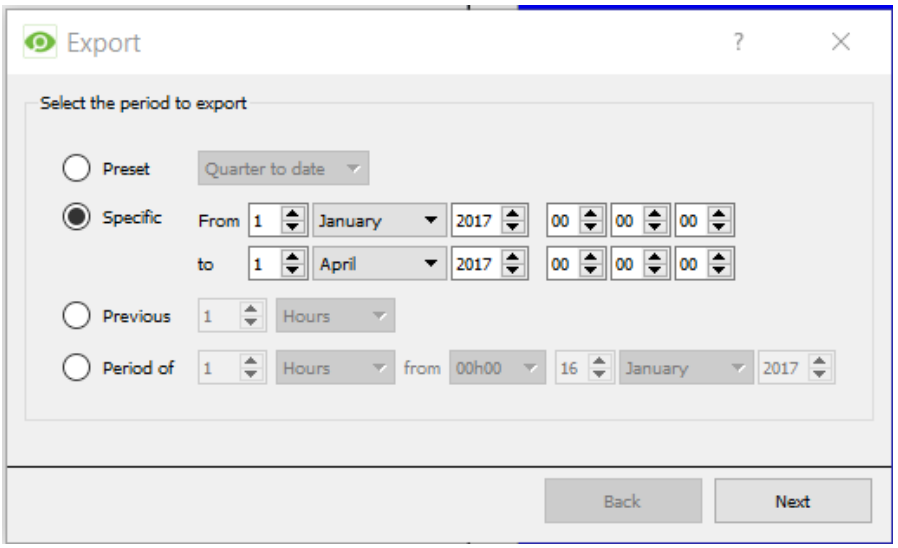


① **View**	The user may change the way that the database is presented. Some integration databases have multiple view options. The Commend device has: **Server** and **Events**.
② **Sorted By**	Events can only be sorted by certain perameters. Commend Intercom events can only be sorted by **Time**.
③ **Easy Search**	The easy search option lets the user quickly search the database. The Commend device has: 

④ **Filter**	Filter offers a more advanced manner of sorting information in the Integration Database table. Once the filters dialogue is open, the following filter options are available: 1. To **enable** filters check this box: Enable filters 2. To **add** a new filter click on . 3. To **delete** an added filter click on . It is possible to filter the same perameters more than once. 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.) The filter options in this integration are: **Transaction** Start Time End Time Intercom 1 Intercom 2 **Note**: 1. Multiple filters may be run simultaneously. 2. The filter icon will change to when filters are active.
⑤ **Export**	Generate meta-database reports in PDF or CSV format. See below.
6 **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 the arrow icon.

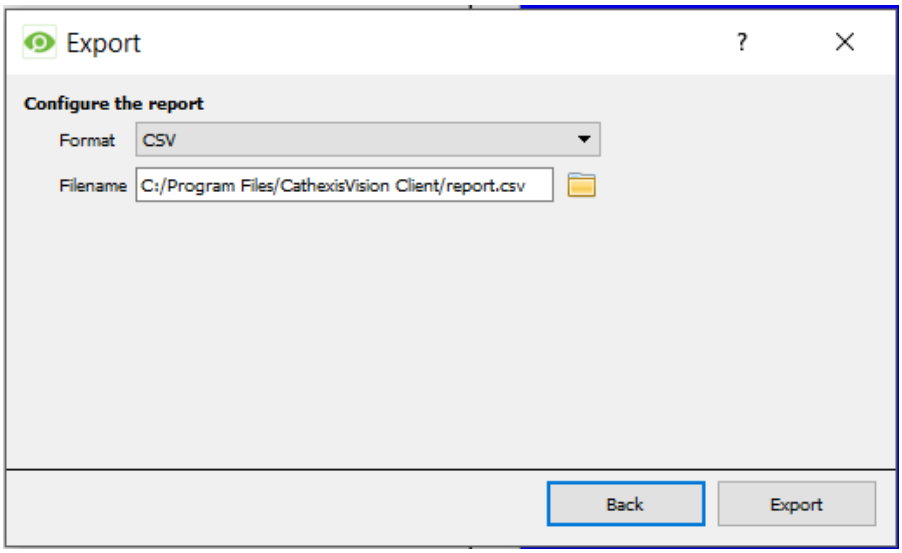
3.2.1 Generate Meta-Database Reports

Click the **save icon** to open the Export window.



Select the **Period** to export, and enter the required details.

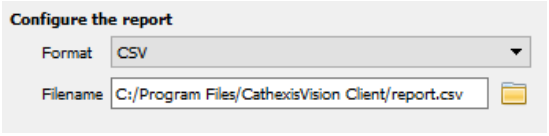
Click Next.



Select the **Format** to export the report in; either **CSV** or **PDF**.

See below for the two options.

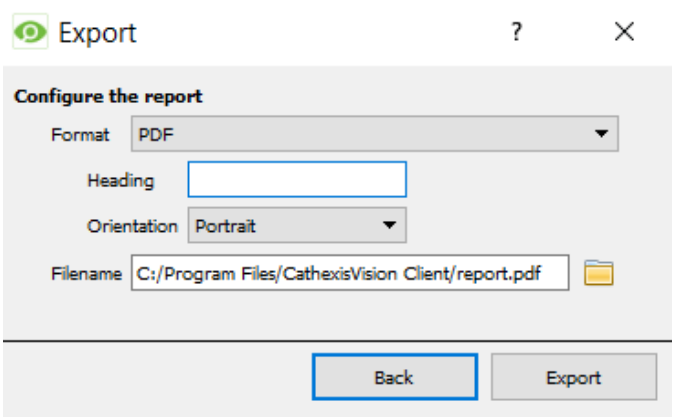
3.2.1.1 Export CSV



Select CSV **Format**.
Edit the **Filename** by either entering it straight into text field (replacing report.csv).

Or, click the folder icon to choose a new save folder and filename.

3.2.1.2 Export PDF



Select PDF **Format**.

Give the PDF a **Heading**.

Select either Landscape or Portrait **Orientation** of the PDF.

Edit the **Filename** by either entering it straight into text field (replacing report.csv).

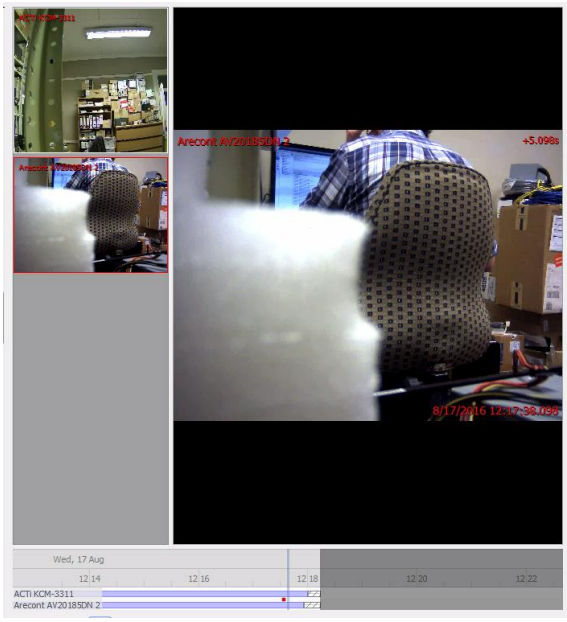
Or, click the folder icon to choose a new save folder and filename.

3.3 Viewing an Entry's Associated Recording

This integration uses the new video option where the video player is embedded in the database view. This player uses the same timeline features as the CathexisVision cameras tab.

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

3.3.1 Reviewing Multiple Cameras

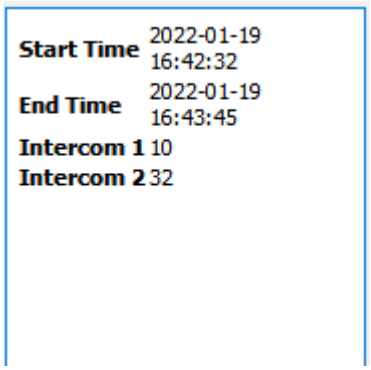


If multiple cameras were added to the recorded object during the integration setup, these are displayed on the left of the video player screen as thumbnails.

Select a camera thumbnail to review it.

3.3.1.1 Device Event Metadata

When an integration database entry is selected, its event information will be displayed on the right of the video player:



4. Events

A CathexisVision event has a trigger, which causes an action. Integrated devices may be set to act at triggers, or as actions. This document will detail the Commend Intercom 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.

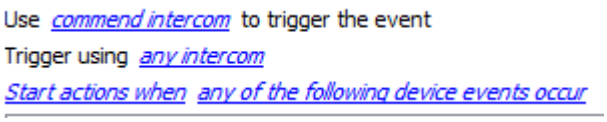
4.1 Events

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

Once in Events management click on New. This will open up the New Event window.

4.1.1 While/When and Any/All

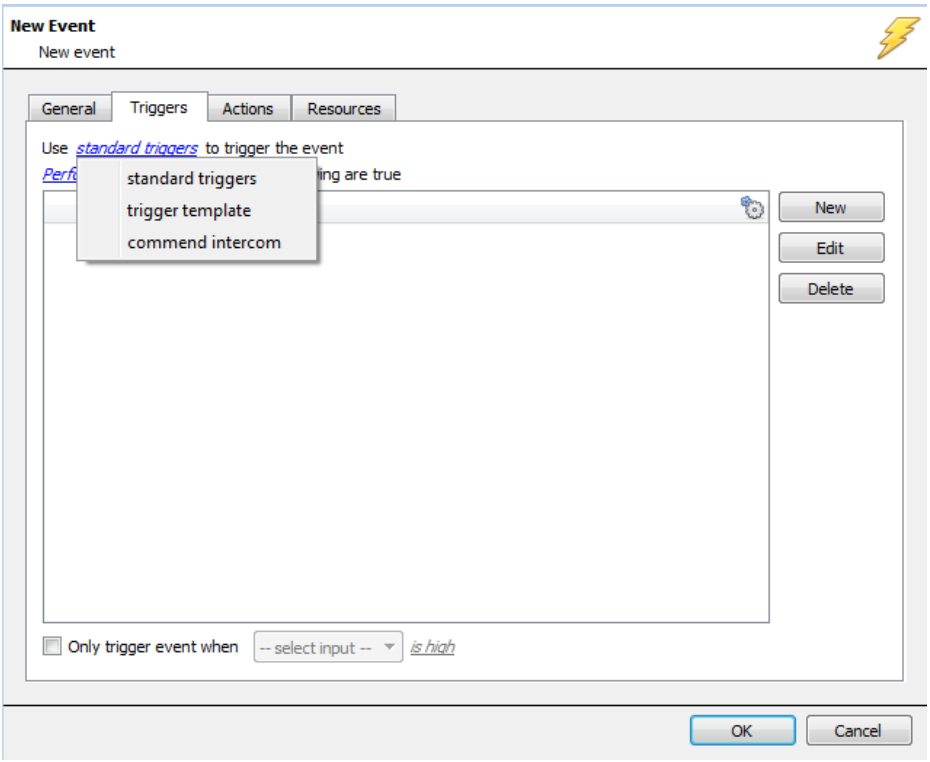
When triggering on a door, the option is to trigger **while/when** a trigger is active. The user will also be able to select multiple triggers, and define whether **all/any** of the triggers need to be active to set-off an event.



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

4.2 Triggers

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



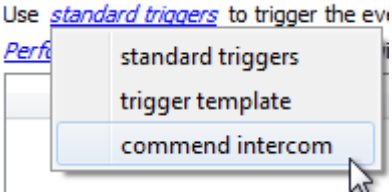
In this window, define the rules and constraints which will trigger an event on the Commend device.

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

Note: The user may set multiple constraints, choosing if *any*, or *all* constraints need to be fulfilled to set off a trigger.

4.2.1 Set the Device as the Trigger

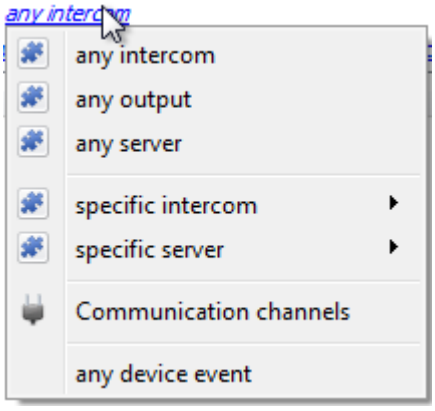
Choose the Master Trigger type here.



If creating a new event, the trigger type will default to: Use *standard triggers* . To define which device to trigger the event, click on the hyperlink after "use". To set it as the Commend device, click on the hyperlink, and select the relevant device name from the dropdown menu.

4.2.2 Trigger Types

Choose whether certain device objects or any device event will trigger an event.



Any … will trigger using any of the listed objects.
Objects in group… will trigger using any of the objects in that group.
Specific object will trigger using only a specific object.
Any device event will trigger when any trigger occurs on the Commend Intercom device.

Note: If object groups have been created, the option to trigger using specific/any group will appear here.

Note for group triggers: To database this event 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.

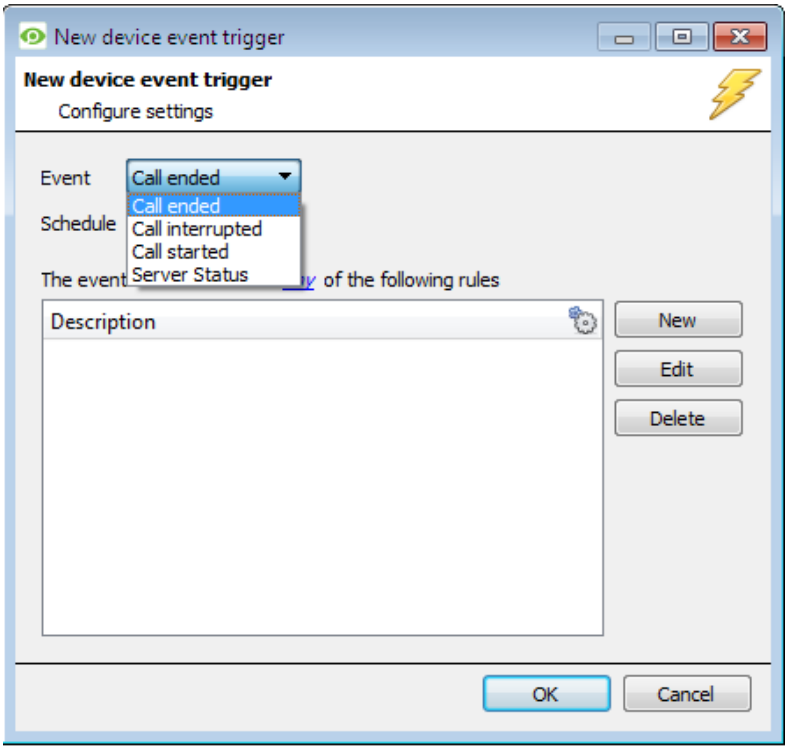
Click on the question mark to see a list of available descriptions. Example usage: value=$input_name

In this example, replace 'value' with the name the event should be databased under.

4.2.3 Device Event Triggers

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

New Click on New in the Triggers tab. This will bring up the dialogue box below:



Select the **Event** type.

Define the **Schedule**.

Click on the blue hyperlink to define whether the ***any*** or ***all*** of the configured device event rules should trigger an event.

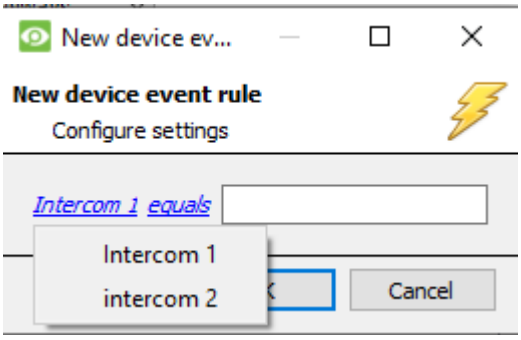
Next, add rules to the device event trigger.

Note: Rules for different event types must be added individually. I.e., switching from Access to Door event types in this window will lose any rules configured for Access events.

4.2.3.1 Add Rules to Device Event Triggers

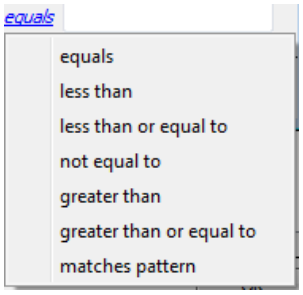
If no constraints are set, every device event will trigger this. Once constraints are set, only the constraints chosen will trigger the event. Once the type of device event that will be the trigger is selected, add a new **device event rule.**

New To do this, click on New in the **New Device Event Trigger** window.



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 display the rules options:

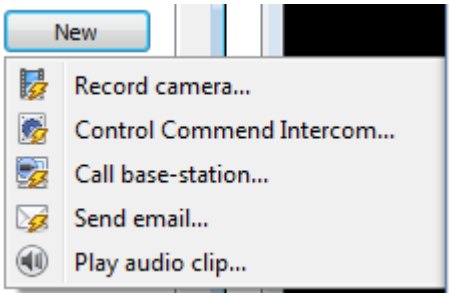


Note: When all available options are known to CathexisVision, they will be visible in a drop-down menu. When these variables are not pre-defined, they will need to be filled in manually. The information pulled through to the events is information sent to CathexisVision from the Commend Intercom device, see the Commend settings for the strings needed here.

4.3 Actions

Once the triggers that are going to initiate the event have been defined, to define some Actions in the **Actions Tab** of the **New Event** window.

To set an action for an event trigger, click New and select an action from the available options:



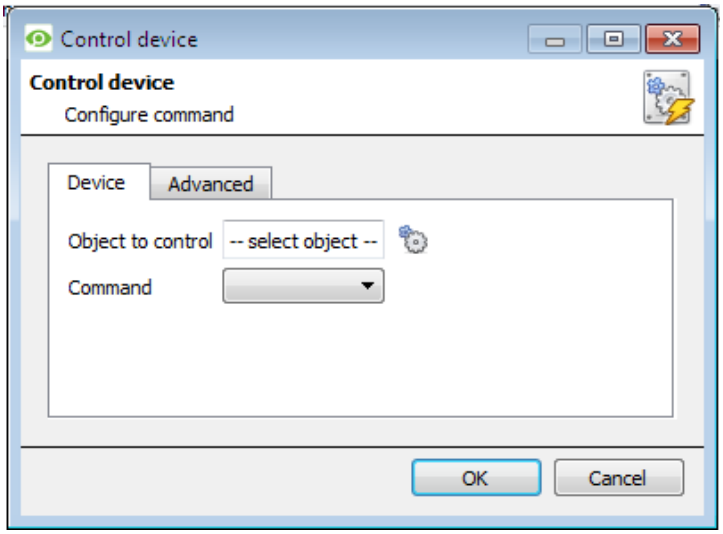
One of the available actions will be to *control* the Commend Intercom device.

4.3.1 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.

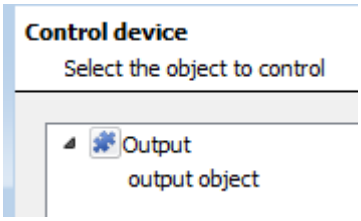
Note: Only Output objects may be controlled. Output objects need to be manually created, as they are not automatically generated by device events.

4.3.1.1 Configure Command Window



Select Object to Control

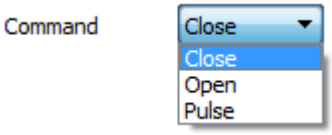
Click the settings icon to select an **object to control**.



Under the object type parent group, select the individual objects to control.

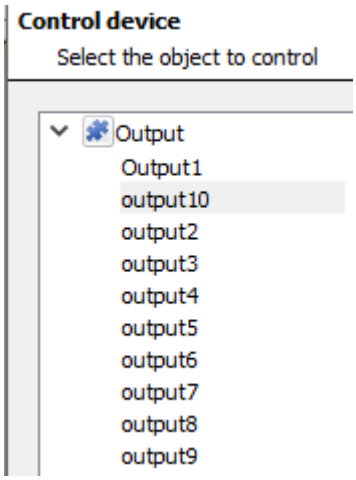
Note: Only output objects can be controlled.

Choose Command



Choose a command with which to control the selected object.

Click the settings icon to select an **object to control**.

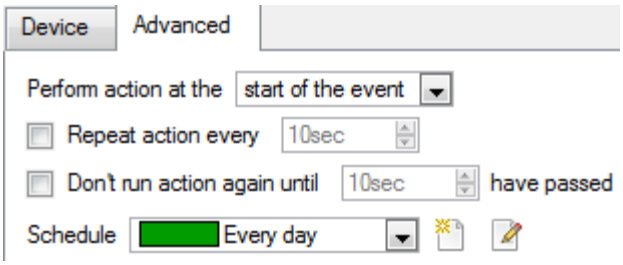


This will display a selection of all the Objects available on the Commend device.

This illustrated in the image alongside.

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

4.3.1.2 Advanced



Decide when to **perform action at:** the options are either at **the start of the event**, or **once the event triggers have subsided**.

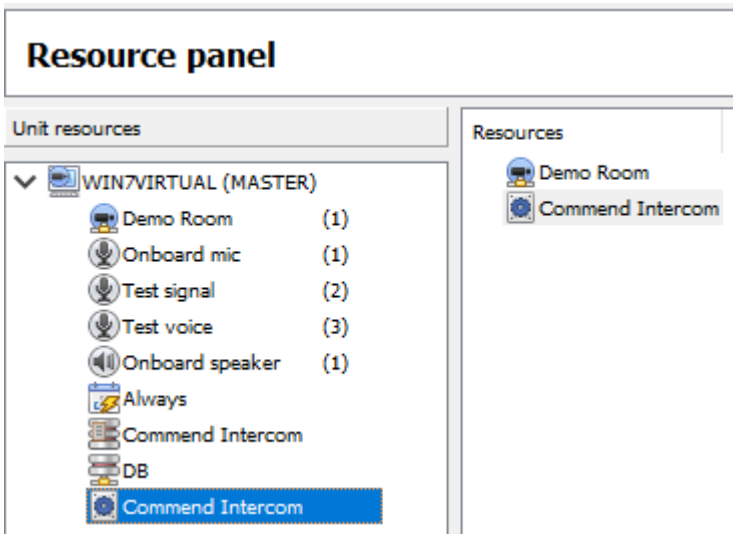
The two checkboxes allow the user to set the action to repeat every few seconds, and/or not run for a period after it has triggered.
Schedule is a standard CathexisVision schedule, which may be applied to the actions.

5. Maps

It is possible to add the Commend device to a site map, which will allow for a number of action options triggered by intercom calls and server status changes. These options include the animation of triggered resources and connecting to site cameras, etc.

Note: This section will only deal with the specifics of the Commend device. For more information on using the CathexisVision Map Editor and Map Tab, please consult the dedicated and detailed Map Editor Operation Manual.

5.1 Add the Commend Intercom Device as a Resource



To configure the map, the device must be added as a resource to be added to the map.

5.1.2 Add the Device in the Resource Panel

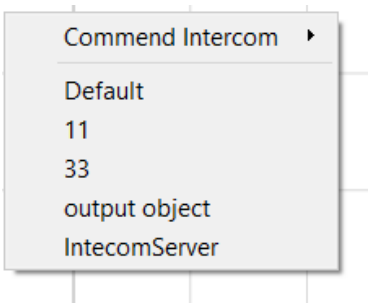
1. Navigate to the **Resource Panel** by following **Site / Open Tab / Setup / Resource Panel.**
2. Drag the device from the **Unit Resources** list into the **Resources** list, on the right.

5.2 Add the Device in Map Editor

First, connect to site in Map Editor.

Then. once the device has been added as a **Resource**, it will be available to drag onto the map area from the **Site Resources** list.

5.2.1 Adding Device Objects

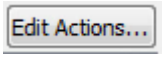


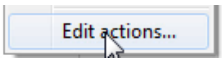
Drag the device from the Site Resources list onto the map area.

Select one of the associated objects.

Note: To add multiple objects, repeatedly drag-and-drop the device onto the map area to bring up this option.

5.2.2 Adding Device Actions

To add actions to the device objects, either select the object on the map and click 

or right-click the map object and select 

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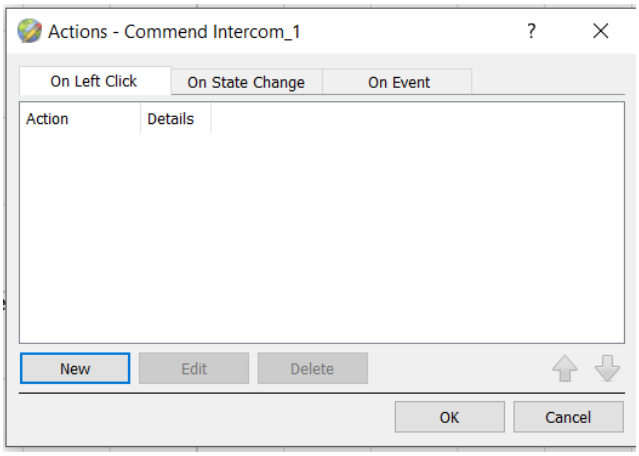
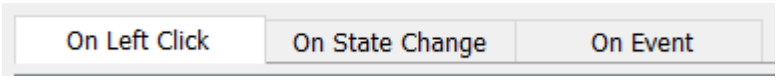
5.2.2.1 Action Options



Map actions can be triggered by left-clicks, right-clicks, state changes and events, and differ according to the object. These options are indicated by the tabs in the Action window when editing actions for specific objects.



Select the appropriate tab in the actions window to determine whether actions will be triggered by left/right-click, state change or event.

Then click **New** to add a new action.

Actions can be set for the Server object state changes, and intercom object actions may be configured to display a map notification when a device event occurs.

Note:

1. Map action trigger details (such as the kinds of events and state changes) will differ according to the object selected. For example, an intercom server object will have a server status event trigger option, whereas an intercom object will have call ended/started etc. options.
2. All action options are the same, except for On Event action triggers, where there is an addition action to show a device event notification.

Multiple actions may be added to the map objects.

Once finished, save the map.

Important note: The map **must not be saved** in the Work folder of the installation directory.

5.3 Map Tab

Upload the saved map to CathexisVision. Once the map is open, all objects added to the map area in the Map Editor will be visible on the map, and all actions set will be available.

6. Conclusion

This app-note 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.

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*