



# AVS Alarm Panel Integration White Paper

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# 1. Introduction

This document indicates the features/abilities of the AVS Alarm Panel solution when integrated with CathexisVision. Functionally, this integration will include the triggering of standard CathexisVision system events, based on information received from the device.

For instructions on installation or configuration of the integration, please consult the **AVS Alarm Panel Integration App-note**, available on the Cathexis website, and/or the **CathexisVision Setup Manual**.

## 1.1 Integration Purpose

The AVS Alarm Panel integration is a solution for controlling and monitoring security events received from the panel. Zones and partitions from the panel can be linked to cameras. State changes can then be configured to act as triggers for events. Users can control objects and create events using the CathexisVision AVS Alarm Panel integration to allow for system or zone/partition specific commands—such as arming, bypassing, and disarming specific zones—to be sent to the panel. The AVS Alarm Panel’s EWEB PLUS module sends and receives messages via an IP/TCP connection to CathexisVision.

## 1.2 Requirements

### 1.2.1 General Requirements

- CathexisVision 2023.1 and later.
- Windows 10: 64-bit and later; Windows Server 2016 and later.
- Ubuntu 16.04/20.04 LTS
- Minimum of 4GB of RAM required.

### 1.2.2 CathexisVision License Requirements

License No.	Name	License Description
CAVS-2000	AVS Electronics alarm panel	This license is the “base” license to integrate with the alarm panel system. It is applied to the server to which the AVS Alarm Panel is connected. This licence will allow for the connection of a single integration device

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

### 1.2.3 AVS Specifications

The following hardware components were used to test this integration:

<b>Hardware name</b>	AVS XTREAM 32 EVO
<b>Hardware model number</b>	XTREAM32 EN0
<b>Additional hardware required</b>	EWEB PLUS module (Ethernet)
<b>Firmware as tested</b>	V1.2 t0
<b>Third-party software name</b>	Xwin
<b>Third-party software version</b>	1.1.0.4

## 1.3 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.

## 2. Features and Abilities

This section indicates the features/abilities of the AVS Alarm Panel software when integrated with CathexisVision.

### 2.1 General Device Features

- CathexisVision receives event messages from the AVS Alarm Panel device.
- The AVS Alarm Panel device sends and receives messages to/from CathexisVision via an IP/TCP connection with an EWEB PLUS module.
- Device objects support camera overlays.
- Device events can be used to trigger Cathexis Events

### 2.2 Device Objects

Objects are populated automatically as soon as communication between the AVS Alarm Panel device and CathexisVision is established.

Object Type		Abilities
General		<ul style="list-style-type: none"> <li>• This integration has Partition, System, Zone, and Communication Channel objects.</li> <li>• Objects are automatically created as soon as communication between the CathexisVision unit and device is established.</li> <li>• Device objects can be commanded as an action of a CathexisVision event.</li> <li>• Device objects support overlays.</li> <li>• Objects may be linked to cameras to associate device events with video footage.</li> </ul>
Partition	General Object Features	<ul style="list-style-type: none"> <li>• The partition object is a group of zones.</li> <li>• It is used to arm/disarm the associated zones.</li> <li>• The panel keypad (or commands from the NVR) are used to control the device and its state changes, which affect its properties in CathexisVision.</li> <li>• The partition states are updated as events occur on the panel.</li> </ul>
	Object Properties	<ul style="list-style-type: none"> <li>• Name</li> <li>• Mode</li> <li>• Ready to be armed</li> </ul>
	States	<ul style="list-style-type: none"> <li>• On</li> <li>• Home</li> <li>• Area</li> <li>• Perimeter</li> <li>• Disarmed</li> </ul>

	<b>Commands</b>	<ul style="list-style-type: none"> <li>• On</li> <li>• Home</li> <li>• Area</li> <li>• Perimeter</li> <li>• Disarmed</li> </ul>
<b>System</b>	<b>General Object Features</b>	<ul style="list-style-type: none"> <li>• View the status of the panel easily, with major issues such as loss of AC mains being displayed here.</li> <li>• Properties changes from the panel will take several seconds to update.</li> <li>• To identify the system object, the version number is taken from the device.</li> </ul>
	<b>States</b>	<ul style="list-style-type: none"> <li>• All available sessions already in use</li> <li>• Disconnected</li> <li>• Invalid user number</li> <li>• Start Login</li> <li>• User accepted</li> <li>• User already registered</li> </ul>
	<b>Object Properties</b>	<ul style="list-style-type: none"> <li>• Name</li> <li>• State (user connection)</li> <li>• Version</li> <li>• Tamper switch</li> <li>• Communication tamper</li> <li>• AC mains loss</li> <li>• Low battery Voltage</li> <li>• Battery missing</li> <li>• Fire alarm</li> <li>• RF interference</li> </ul>
	<b>Commands</b>	<ul style="list-style-type: none"> <li>• N/A. There are no commands for this object.</li> </ul>
	<b>General Object Features</b>	<ul style="list-style-type: none"> <li>• The zone object cannot be controlled while the partition is armed.</li> <li>• Right-click the zone object and select the desired command.</li> <li>• The zone states are updated as events occur on the panel.</li> </ul>
<b>Zone</b>	<b>States</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
	<b>Object Properties</b>	<ul style="list-style-type: none"> <li>• Name</li> <li>• Open</li> <li>• Tamper open</li> <li>• Bypassed</li> <li>• Armed</li> <li>• Low battery</li> <li>• Detector fault</li> <li>• Anti-masking alarm</li> <li>• Alarm detection</li> </ul>
	<b>Commands</b>	<ul style="list-style-type: none"> <li>• Bypassing</li> <li>• Unbypassing</li> </ul>

<b>Communication Channel</b>	<b>General Object Features</b>	<ul style="list-style-type: none"> <li>• The communication channel object connects using TCP.</li> <li>• It will not go down when communication with the panel is lost.</li> <li>• This shows if the connection is up or down.</li> <li>• This is also set at the 'default' device object.</li> <li>• The communication channel object can be used to trigger events when communication with the panel is either established or lost.</li> </ul>
	<b>Object Properties</b>	<ul style="list-style-type: none"> <li>• Name</li> <li>• Channel status</li> <li>• Details</li> <li>• Creation type</li> <li>• Creating time</li> <li>• Idle time (mins).</li> </ul>
	<b>States</b>	<ul style="list-style-type: none"> <li>• States are up or down.</li> <li>• Indicates connection between the device and the software</li> </ul>
	<b>Commands</b>	<ul style="list-style-type: none"> <li>• N/A. There are no commands for this object.</li> </ul>

## 2.3 Device Events

The CathexisVision AVS Alarm Panel integration generates device events, which are triggered on the device and reflected in CathexisVision.

<b>Event Element</b>	<b>Features/Abilities</b>	
<b>General</b>	<ul style="list-style-type: none"> <li>• Events triggered on the device are sent to CathexisVision.</li> <li>• The following device event messages are received from the AVS Alarm Panel and displayed in the CathexisVision device events tab and integration metadatabase:</li> </ul>	
<b>Device Event Types</b>	<b>Partition</b>	<ul style="list-style-type: none"> <li>• On mode</li> <li>• Home mode</li> <li>• Area mode</li> <li>• Perimeter mode</li> <li>• Disarmed mode</li> </ul>
	<b>System</b>	<ul style="list-style-type: none"> <li>• Disconnected</li> <li>• Start login</li> <li>• User Accepted/already registered</li> <li>• All available sessions already in use</li> <li>• Tamper switch activated/deactivated</li> <li>• battery missing</li> <li>• AC mains loss</li> <li>• low battery voltage</li> <li>• Communication tamper</li> <li>• Fire alarm</li> </ul>

		<ul style="list-style-type: none"> <li>• RF interference</li> <li>• Tamper</li> <li>• Bypass</li> <li>• Open</li> <li>• Arm</li> <li>• Alarm detection</li> </ul>
	<b>Zone</b>	
	<b>CathexisVision Event Actions</b>	<ul style="list-style-type: none"> <li>• Events generated by the device are reflected in CathexisVision and can be used to create CathexisVision system events.</li> <li>• The following Device events can be controlled due to a CathexisVision Device event:                             <ul style="list-style-type: none"> <li>○ Partition: On, Home, Area, Perimeter, Disarmed.</li> <li>○ Zone: Bypassing, Unbypassing.</li> </ul> </li> </ul>

## 2.4 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
<b>General</b>	<ul style="list-style-type: none"> <li>• All device events are databased.</li> <li>• Database entries include the footage from cameras linked to device objects.</li> <li>• Multiple cameras may be linked to multiple objects.</li> <li>• Device event metadata is displayed where applicable.</li> <li>• Databased device events may be viewed in the embedded video player, which includes the usual CathexisVision video review tools.</li> <li>• Device events are available from partition, system, and zone.                             <ul style="list-style-type: none"> <li>○ Partition events on change of mode</li> <li>○ System events on user status, tampers, voltage issues and interference.</li> <li>○ Zone events on their change of state.</li> </ul> </li> </ul>
<b>View Options</b>	<ul style="list-style-type: none"> <li>• All</li> </ul>
<b>Sort Options</b>	<ul style="list-style-type: none"> <li>• Time</li> <li>• Type</li> </ul>
<b>Easy Search</b>	<ul style="list-style-type: none"> <li>• Name</li> <li>• Notification</li> </ul>
<b>Filter</b>	<ul style="list-style-type: none"> <li>• Time</li> <li>• Type</li> <li>• Name</li> <li>• Notification</li> </ul>
<b>Export</b>	Database entries may be exported in CSV and PDF format.



## 2.5 Maps

The CathesisVision 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
<b>General</b>	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.
<b>Map Action Triggers</b>	<ul style="list-style-type: none"> <li>• All device objects may be set to trigger a map action if the user left clicks on the map.</li> <li>• The Partition, System and Zone device objects may be set to trigger a map action if a state change message is received from the device.</li> <li>• All device objects may be set to perform a map action if <i>any</i> event occurs on the device.</li> <li>• Device objects, which can be configured to trigger CathesisVision events, may also be set to perform a map action when specific CathesisVision events are triggered.</li> </ul>
<b>Map Actions Options</b>	When triggered (see above), objects may perform the following map actions (where applicable): <ul style="list-style-type: none"> <li>• Connect to a site.</li> <li>• Perform an animation.</li> <li>• Go to a camera preset.</li> <li>• Load a map.</li> <li>• Set a PTZ relay output.</li> <li>• Show a popup menu.</li> <li>• Set a relay output.</li> <li>• Show an HTML block.</li> <li>• Show a block of text.</li> <li>• Show a device popup menu.</li> <li>• Show a device event notification.</li> </ul>

## 3. Conclusion

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

For support, email [support@cathexisvideo.com](mailto:support@cathexisvideo.com).

### 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>