



CathexisVision 2019.2

Quick Start Guide



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1 Welcome

This short guide provides basic instructions and information on how to setup **CathexisVision**.¹ The objective of this document is to get the user up and running as quickly as possible. For more detailed information (such as configuring video analytics, Failover, etc), please consult the **Setup Manual** or contact support at support@cat.co.za.

Please note: in order to use this document and software, the assumption is that the installer has a basic understanding of the operating system they are using, and is able to do simple administrative tasks (for example, adding disks, adding printers, or setting IP addresses).

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.

2 Requirements/Restrictions

Please [download CathexisVision Software](#) to continue with this document, and note that there is a **minimum requirement of 4 Gigabytes of RAM** to run this software.

2.1. Supported Systems

Listed below are the supported operating systems. Supported systems apply to all contents of CathexisVision software install, including:

1. CathexisVision software.
2. Map Editor.
3. Archive Viewer.

2.1.1 ***Not Supported***

The following systems are **not supported**:

- Windows XP and earlier.
- Windows Vista.
- Windows Server 2008.
- Linux Fedora 16 (supported in CathexisVision 2018 and later).
- NetBSD.

2.1.2 ***Supported Linux Systems***

- Ubuntu 12.04 LTS Desktop (32-bit).
- Ubuntu 16.04 LTS Desktop (64-bit).

2.1.3 ***Supported Windows Systems***

- Microsoft® Windows® 7 SP1.
- Microsoft® Windows® 8 .
- Microsoft® Windows® 8.1.
- Microsoft® Windows® 10 .
- Microsoft® Windows® Server 2008 R2 SP1.
- Microsoft® Windows® Server 2012.
- Microsoft® Windows® Server 2012 R2.
- Microsoft® Windows® Server 2016.

Note: CathexisVision 2019 is the last release to support Windows 32-bit installs.

2.2. Windows Update Requirements

The Universal C Runtime Update is required for certain systems. From CathexisVision 2017 onwards, updated Windows runtime libraries are used. This means that the Windows 10 Universal C Runtime update must be run on systems prior to Windows 10 (see list below).

Note: From CathexisVision 2018.3 onwards, Windows Vista and Windows Server 2008 are no longer supported, thus the update no longer applies to those systems. Windows Server 2008 R2 is still supported. This update requirement applies to:

- Windows Server 2012 R2.
- Windows 8.1.
- Windows RT 8.1.
- Windows Server 2012.
- Windows 8.
- Windows RT.
- Windows Server 2008 R2 Service Pack 1 (SP1).
- Windows 7 SP1.

Windows XP and earlier is not supported.

Windows updates can be run, or the specific update KB2999226 may be run. The Windows 10 Universal C Runtime update can be downloaded from: <https://support.microsoft.com/en-us/kb/2999226>.

Running the KB2999226 update has prerequisites, and one may first need to install:

- Windows 7 Service Pack 1 (download from <http://windows.microsoft.com/installwindows7sp1>).
- Windows Server 2008 Service Pack 2 (download from <https://support.microsoft.com/en-us/kb/968849>).
- Windows Server 2008 R2 Service Pack 1 (download from <http://go.microsoft.com/fwlink/?LinkID=199583>).
- Windows RT 8.1, Windows 8.1, and Windows Server 2012 R2 update:
 - KB2919442 (download from <https://support.microsoft.com/en-us/kb/2919442>),
 - then KB2919355 (download from <https://support.microsoft.com/en-us/kb/2919355>).

2.3. Hardware Requirements

The **CathexisVision** software architecture is designed to utilise the various hardware system components with maximum efficiency. When choosing hardware, there are many system issues to be taken into consideration. Some examples are:

- Camera resolution.
- Camera bitrates for recording.
- Camera Frame rates and resolution for “live” viewing.
- Whether the IP camera or the Cathexis software is used to perform Video analytics.
- Is the user viewing cameras “live” from the same server on which recording is taking place?
- Is “multicast” video being streamed from the camera?
- Storage methodology (on-board, Network Storage etc.).

2.3.1 Hardware Selection Guidelines

The table below provides guidelines to assist in choosing hardware for the application. The figures in the table were generated using the CathexisVision Design Tool.

Note: the following parameters were used to determine these guidelines:

1. These are conservative figures for recording servers only.
2. Live viewing is not included in these numbers.
3. 3MP cameras with 3MP/24fps recording stream.
4. CIF/12fps analytics stream running Smart VMD.
5. External storage on a 1/10 Gbps network.

Note: These guidelines are not exhaustive. For assistance with design, contact a distributor or a **Cathexis** regional office. Alternatively, navigate to cathexisvideo.com and use the Design Tool.



Processor	RAM (GB)	Server Storage throughput Mbps	No. of 3MP cameras per server
i7-7700k 4.20GHz	16	600	152
Xeon E3-1290 V2 3.70GHz	16	500	122
Xeon E5-1680 V4 3.40GHz	32	700	187
Xeon E5-2640 V2 2.40GHz	32	650	164
Xeon E5-2695 V3 2.30GHz	32	900	223
Xeon E5-2699 V3 2.30GHZ	32	1000	253

2.4. Anti-Virus Exclusions

If an anti-virus with active or real-time protection scanning enabled is being run, certain CathexisVision folders need to be excluded from anti-virus scanning.

The folders which need to be excluded are:

- CathexisVision **Server** installation folder.
- CathexisVision **Client** installation folder.
- Any folders, drivers, and volumes where **database/s** reside.

Note: All folders and paths referred to below are default installation folders – if the default folder option was not selected during installation, then locate and exclude the installation folder/s from anti-virus scanning.

The sections below indicate the default installation folders and paths, which need to be excluded from scanning.

2.4.1 Folders to Exclude in CathexisVision 2018 and Later

For sites running CathexisVision 2016 and/or 2017, please exclude the following from anti-virus scanning:

	Folders to Exclude	
CathexisVision Server	32-bit	c:\program files (x86)\CathexisVision Server
	64-bit	c:\program files\CathexisVision Server
CathexisVision Client	32-bit	c:\program files\CathexisVision Client
Database folders/drives/volumes	Please locate and exclude.	

2.4.2 Complete List of Folders to Exclude

If the system uses a **global anti-virus** (meaning anti-virus protection is applied globally and not to individual units) and the different units in the site may have different installation folders, or if the **installation is prior to CathexisVision 2015**, then simply exclude **all** the default installation folders to avoid hassle.

Note: All folders and paths referred to below are default installation folders – if the default folder option was not selected during installation, then locate and exclude the installation folder/s from anti-virus scanning.

	Folders to Exclude
CathexisVision Server	c:\program files\Cathexis CatVision Suite NVR
	c:\program files (x86)\Cathexis CatVision Suite NVR
	c:\program files\CathexisVision Server
	c:\program files (x86)\CathexisVision Server
CathexisVision Client	c:\dvs
	c:\program files\Cathexis catVision Suite WRV
	c:\program files (x86)\Cathexis catVision Suite WRV
	c:\program files\CathexisVision Client
	c:\program files (x86)\CathexisVision Client
Database folders/drives/volumes	Please locate and exclude.

2.4.3 Third-Party Anti-Virus Real Time Scanning on CathexisVision Clients

On a CathexisVision Client unit, the CathexisVision Server folder needs to be manually excluded from scanning by Windows Defender or other third-party anti-virus real time scanning components.

2.5. Routing/Port Requirements

The following information regards the router ports that need to be opened on the network firewall/router/anti-virus. These ports are important in allowing several **Cathexis** services to run correctly. Please ensure that these ports are also opened on the anti-virus (if running one).

2.5.1 Ports to Open

Note: These ports must also be opened on the antivirus (if running one).

Operational Ports	Protocol	Application	Description
80	TCP	Default CatMobile Access	Port required to allow CatMobile client connection to server.

30010-30100	TCP	CathexisVision Software	Required ports for access to the CathexisVision software and associated configuration, live and recorded view, etc.
30014	TCP	API (CathexisVision 2016 and previous versions)*	Required port to allow API connection to server when using software CathexisVision 2016 and previous versions. <u>Note:</u> Video also needs to be streamed from the server using TCP port 30010.
33104	TCP	API (CathexisVision 2017 and later versions)*	Required port to allow API connection to server when using software versions CathexisVision 2017 and later. <u>Note:</u> Video also needs to be streamed from the server using RTSP on TCP port 554.
* For full list of API ports, please consult API help guide or contact support@cat.co.za			

Maintenance Ports	Protocol	Application	Description
22	TCP	Secure Shell (SSH) - Linux	Port required to enable remote access to Linux server using Secure Shell network protocol.
3389	TCP	Remote Desktop – Windows	Port required to enable remote access to Windows server using Remote Desktop application.
NA	NA	TeamViewer Access	Application for allowing remote access to a Windows server. No port required.

2.5.2 Remote Support

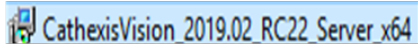
Please download and install one of the following programs relevant to the operating system to ensure remote support is available.

Linux: Secure Shell (SSH - TCP port 22).

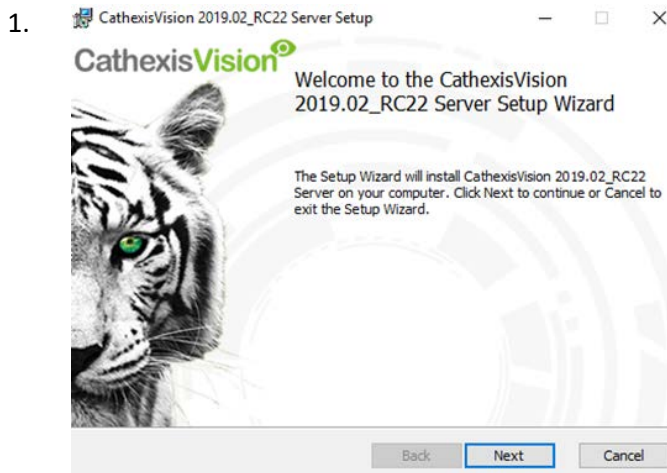
Windows: Teamviewer, or Remote Desktop.

3 Installation

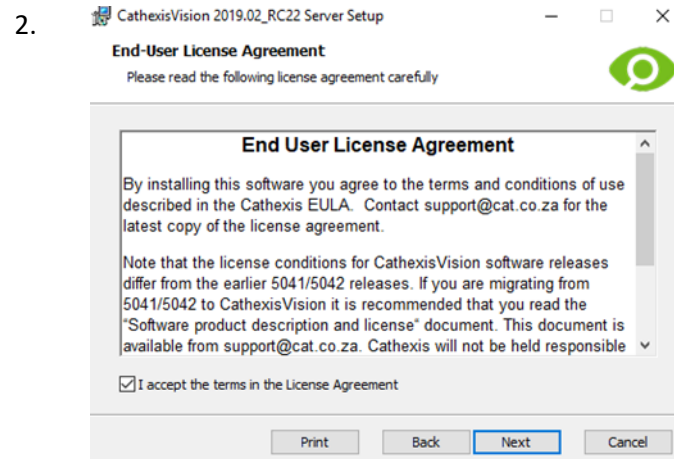
Double-click the installer file to navigate to the **Installation Wizard**.



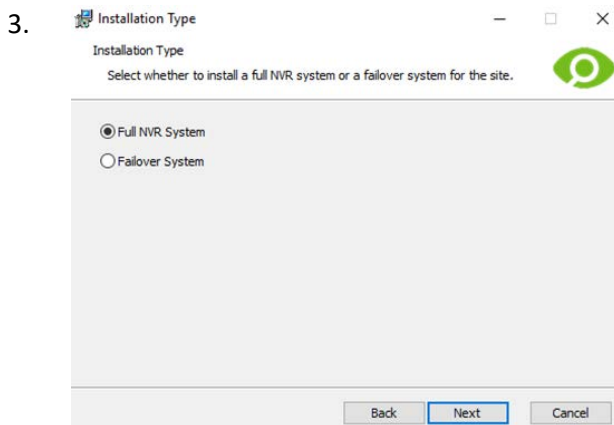
3.1. Follow the installation Wizard



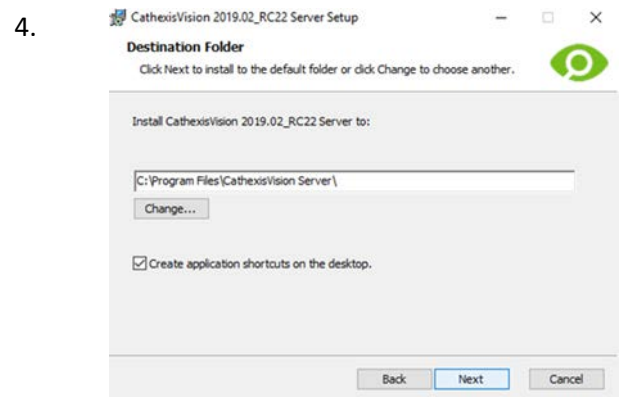
Click **Next**.



Accept the **End User License Agreement**.

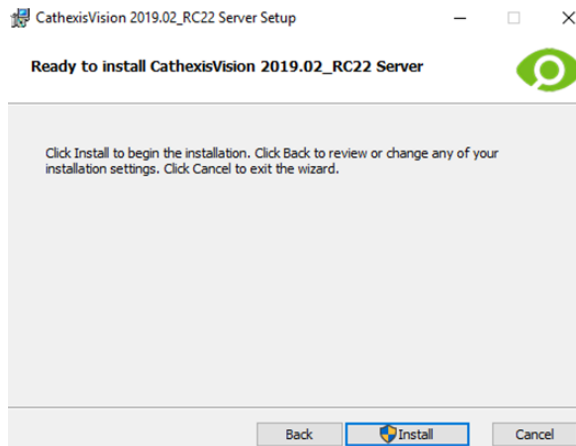


The user will be prompted to choose between a **Full NVR System** and a **Failover System** installation.



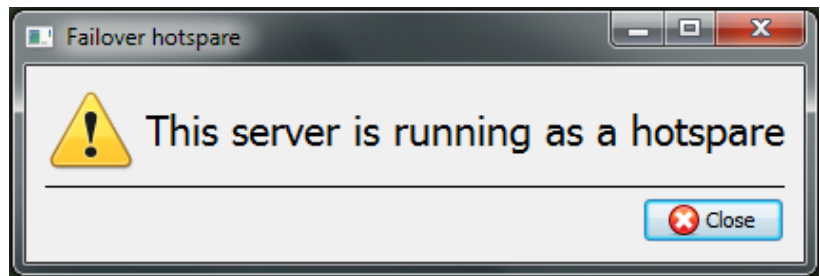
Choose the installation folder (this is best left as it is).

5. Click **Install**, and when the installation is complete, click **Finish**.



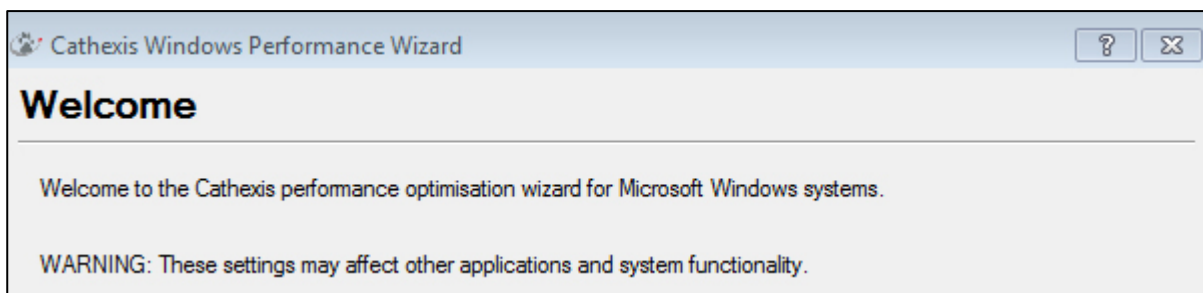
3.1.1 *Failover Installation*

After a successful Failover installation,² attempting to initiate **CathesisVision** (by double clicking on the **CathesisVision** icon) will open the following dialogue box:



3.2. Cathesis Windows Performance Wizard

The Cathesis Windows Performance Wizard optimises several Windows system settings for use of the CathesisVision on a Microsoft Windows PC. It is run after a successful installation and may be run anytime thereafter to change the settings.



The installer shows the current state of each setting. It presents the following options:

Setting	Explanation	Action
Disable DOS 8.3 filenames on NTFS partitions	This is a required setting for using the database engine.	Required

² There is detailed information about Failover in the **Setup** section of the **CathesisVision** manual.

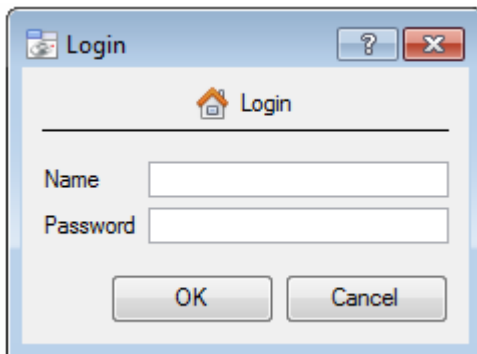
Disable the Last Access Timestamp on NTFS partitions	Provides a small performance gain when accessing large volumes of files.	Recommended
Enable the High Performance power management scheme	Adjusts power settings to allow the best performance of the system.	Recommended
Disable the Windows Defender service	Not required, but provides a small performance gain over a secured system.	Optional
Disable the Windows Search Indexing service	Provides a significant performance gain by preventing background indexing of the file system.	Recommended
Disable the Windows Desktop Manager Service	Disables the Aero desktop and appearance enhancements to reduce graphics system load.	Optional

3.3. Start CathesisVision

This is the user interface that allows the user to configure the recording parameters, and enables one to view the live video and review the recorded video.



3.4. Log in



Default Login Details

Username: admin

Password: admin

4 Licensing

The mode of licensing will depend on whether the license task is being performed on the local unit (the unit being worked on), or a remote unit (this being a viewing unit on which a copy of the software has been installed). This section provides a guide for each situation.

For details on the licensing structure of CathesisVision, please consult the Software Product Description and License Document, or contact support@cat.co.za.

4.1. Trial License

Once CathesisVision is installed, a trial license is automatically applied to the system. To license the system further, consult the relevant licensing sub-section.

Features of the trial license include:

- Two permanent IP camera licenses.
- Maximum recording review time of two days.
- Standard CathesisVision basic analytics.

Trial licenses to unlock additional features may be requested by emailing support@cat.co.za.

4.1.1 Recording Review Time

With a trial license applied, only two days (48 hours) of recordings may be reviewed at a time. The camera will continue to record to database (provided there is space, the cameras have the requisite bitrates, etc.), but review of the recordings will be restricted to two days (48 hours) from the point of review. Apply the relevant licenses to unlock the database and review all recordings for as far back as the database has recorded.

4.2. Licensing from a Local Unit

NB: The following instructions describe the process for licensing the unit **currently being worked on**. For the process for licensing a **remote unit**, see the next section ([Licensing from a Remote Unit](#)).

4.2.1 Internet Connection: Product Key

With access to the internet, and a product key, enter the product key. The system will connect to the on-line licensing system and complete the process.

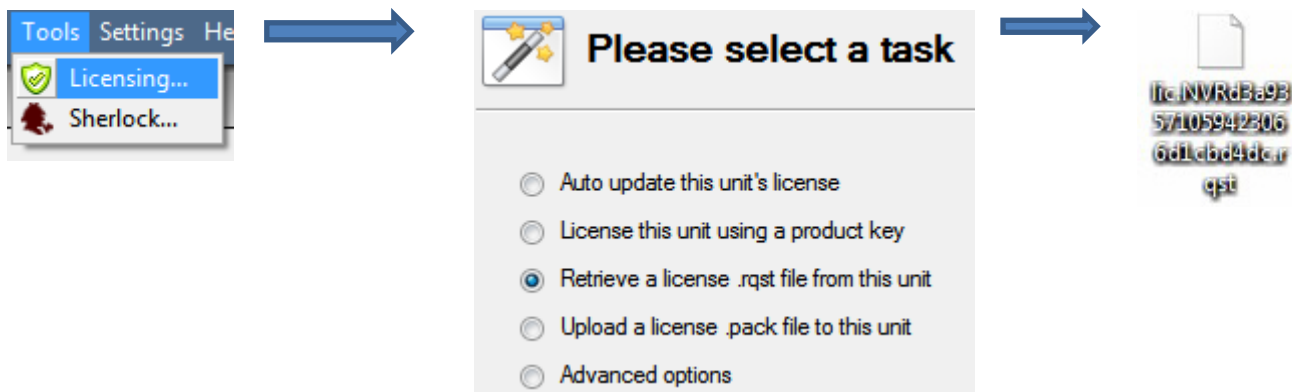
4.2.2 No Internet Connection: Pack File

If there is no internet connection on the unit the user is licensing from, then upload a **.pack** file. A pack file is a file that contains all the licensing information for a unit.

To get a **.pack** file from support@cat.co.za there are two steps. First, save a **.rqst** (request) file, from the unit being licensed, and email this to support, along with the information relevant to the licenses being added to this unit. Support will then respond with a **.pack** file, containing the licenses, which can then be uploaded to that unit.

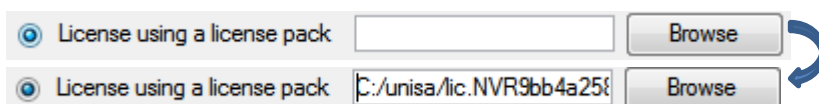
4.2.2.1 License Request File

A **.rqst** file must be retrieved from the unit being licensed.



Email this **.rqst** file to support, along with the information relevant to the licenses being added to this unit.

4.2.2.2 Upload .pack File



The site should now be licensed. For further assistance, contact support@cat.co.za.

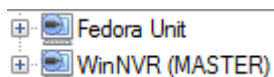
4.3. Licensing from a Remote Unit

When licencing from a remote unit (i.e. licencing a unit that is not the one being worked on), the procedure is different. This is because when clicking **Tools** → **Licensing**, this will license the unit that is currently logged in.

4.3.1 Open Configure Servers

To open **Configure Servers**, of the site logged into, follow this path from the menu bar: **Site** → **Open Tab** → **Setup**.

Once in the setup tab click on the **Configure Servers** icon.



Once **Configure Servers** is open, right click on the individual unit being licensed and select **Licensing** from the drop-down menu.



Please select a task

- Auto update this unit's license
- License this unit using a product key
- Retrieve a license .rqst file from this unit
- Upload a license .pack file to this unit
- Advanced options

After this, the licensing procedure is the same as if **Tools — Licensing** has been selected in the GUI of the local machine.

The options seen here on the left will appear.

Auto-update if this unit has already been licensed, or use a **Product Key** if one was provided.

To request a license, follow the procedure detailed above in the [4.2.2 No Internet Connection](#) section.

Note: Save the **.rqst** files, and upload **.pack** files, to storage media attached to the unit the licensing is being done from, not the one being licensed. Retain the **.rqst** file & the **.pack** file for future licensing support.

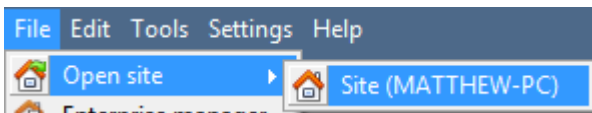
5 The Setup Tab

CathesisVision may run on one individual recording server, or on many interlinked servers. Cameras, and integrated devices, are added to individual servers. For this reason, many of the setups are done on a server-by-server basis. Server based setups occur in the **Configure Servers** section of the **Setup Tab**.

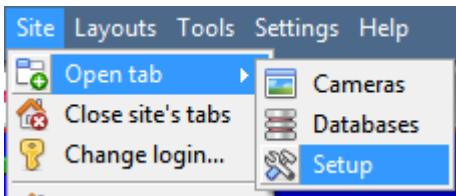
5.1. Open the Setup Tab

There are two general ways of navigating to the **Setup Tab**:

1. **File** → **Open Site** → **Site_Name**





2. **Site** → **Open Tab** → **Setup**




5.2. General Setup

General site setup

Site name	<input type="text" value="SiteName"/>	
Offline access level	<input type="text" value="1"/>	
Default access level	<input type="text" value="Password required"/>	
Site contact	<input type="text" value="No contact"/>	
Network	<input type="text" value="312500kb"/>	<input type="text" value="1 Gb LAN"/>
Multicast addresses	<input type="text" value="-- default --"/>	
<input checked="" type="checkbox"/> Use site passwords		
<input type="checkbox"/> Hide failed cameras in resource panel		
<input type="button" value="Configure archiving"/>		

From the general setup, set the site name, default access levels, site contacts, network speed, and operator archiving profiles.

Once changes are made, click  for them to take effect.

6 Cameras

This section of the manual will detail methods for adding cameras, followed by an examination of the **Camera Editing** options, and some extra information on the right-click menu.

6.1. Adding Cameras

There are two ways to add a camera in **CathexisVision**.

1. The camera **Addition Wizard**. (This provides the option to add databases, schedules, and events to the system.)
2. The **Copy/Paste** Function.


For either method, enter the **Cameras Panel**, which is located under **Configure Servers**.

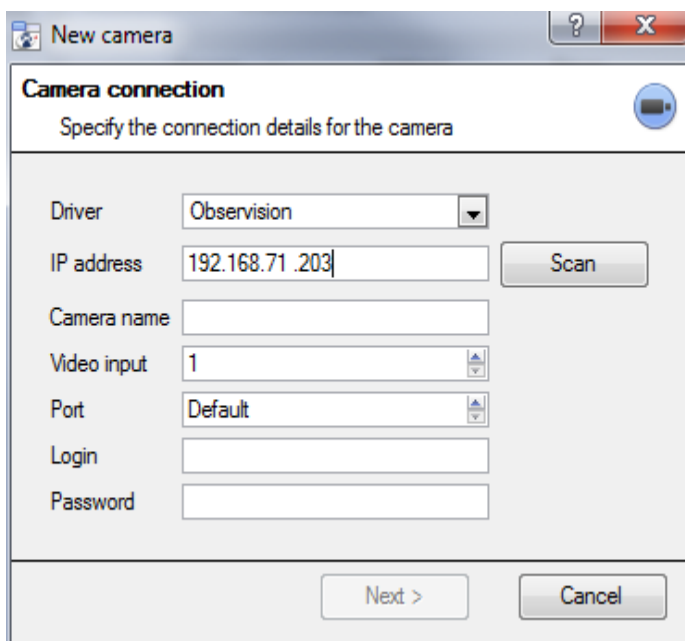
File → Your_Site_Name → Open Tab → Setup → Configure Servers  → Expand the appropriate Server →  Cameras .

6.1.1 Addition Wizard

The camera addition wizard guides the user through all the steps needed to add a camera, as well as allowing the creation of databases, schedules, and events along the way. There are two phases in the **Addition Wizard**:

1. The addition of the camera.
2. Setting up the system to record from that camera (either via a Video Motion Detection (VMD) event, or via a scheduled recording).

To start the camera addition wizard, click on the  button at the bottom of the cameras panel. This will begin the wizard. The following details each step in the wizard.



Driver: Select the relevant driver for the camera.
IP Address: Set the IP address of the camera being added.
Scan: will scan the network for cameras that have been setup to make themselves available. Click on a camera and it will automatically set its driver and IP address.
Camera name: the descriptive name given to the camera.
Video Input: use if connecting to an encoder that has multiple analogue inputs (if not, leave it on 1).
Port: has a default setting, but to connect through a specific port, set it to the port of choice.
Login and password: the cameras' current login details.

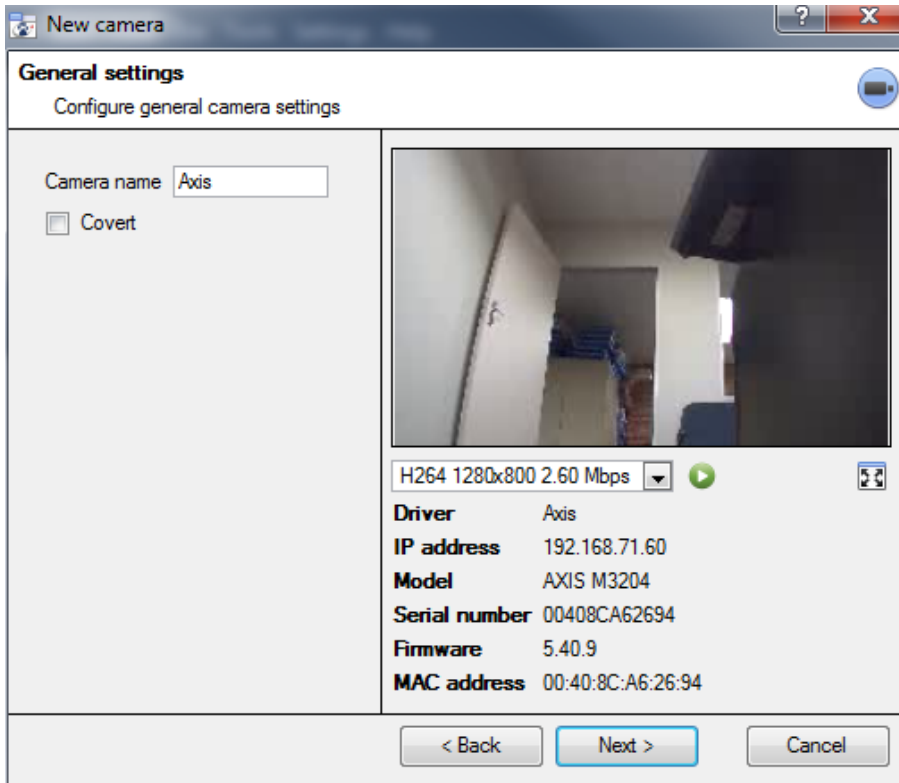
6.1.2 Connection

The first step in the Wizard is the Camera Connection step. Setup all the connection details of the camera.

6.1.2.1 Note on Scanning:

1. Some Cameras do not support automatic location requests, and will not be found using **Scan**.
2. Universal Plug and Play (**UPnP**) will have to be enabled on the cameras that do support location requests.


6.1.3 General Settings



See the table below for description of this window.

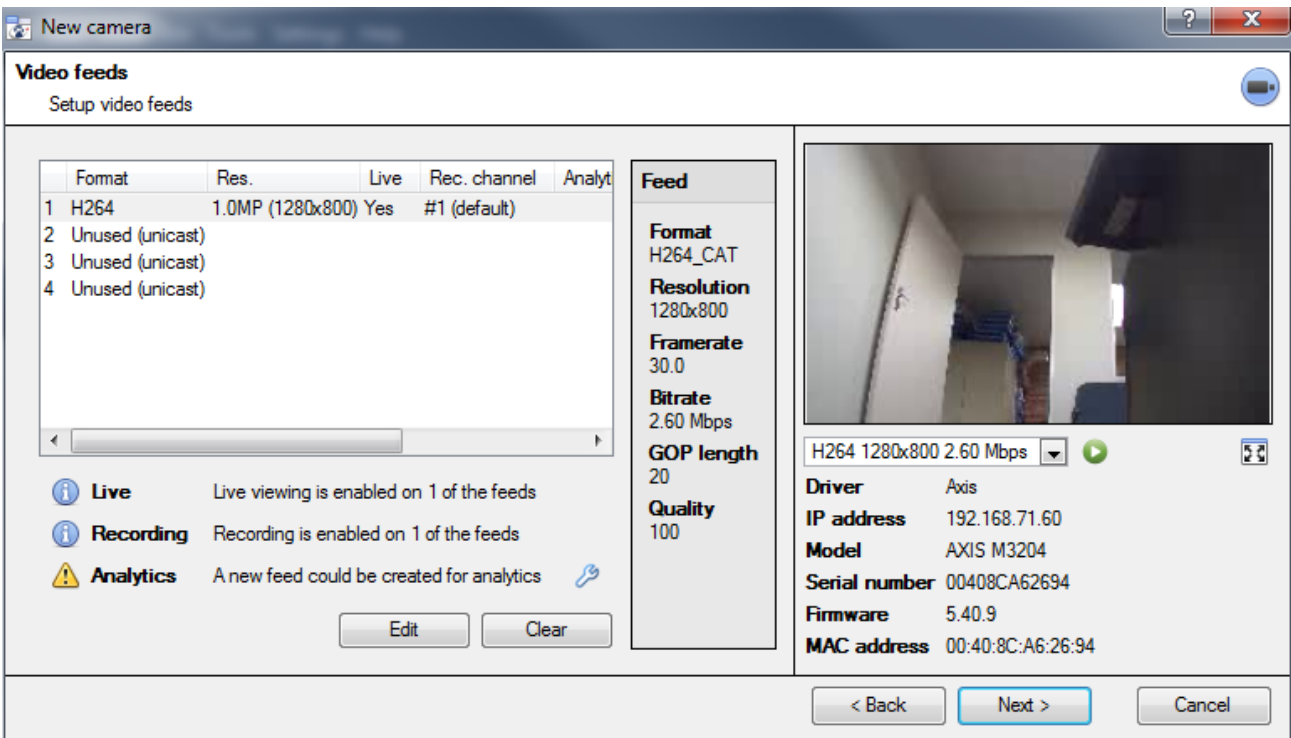
Note: The image in the preview will not reflect the actual quality of the feed, as it is transcoded when viewed in the camera addition wizard.

Name	Give the camera a descriptive name, this will make it easily identifiable in a list.	
Covert	CathexisVision provides the option to create a covert camera. There is a difference between a camera being covert, and a user not having access to it.	
	Covert	Access Level Defined
	Will only be present in the Resources List of an Administrator, or an access level that has been granted access to this camera	Will still appear in the Resources List of lower login levels, but they will not be able to view the feed.
Device Information	This will be a list of all the relevant information, pertaining to the device itself. Device information can be seen underneath the image preview.	
Live Preview	H264_CAT 1280x800 3.20 Mbps	The image is a frame grab from the video feed chosen To play the live preview click on:
	Paused H264_CAT 1280x800 3.20 Mbps	

To enlarge the image, click on: 

6.1.4 Add/Edit Video Feeds

To add/edit a video feed click on one of the available feeds in the list, and click on the **Edit** button. This will bring up a feed dialogue with the available video feeds, and the options that pertain to them. The two most common IP feeds are JPEG and H.264.

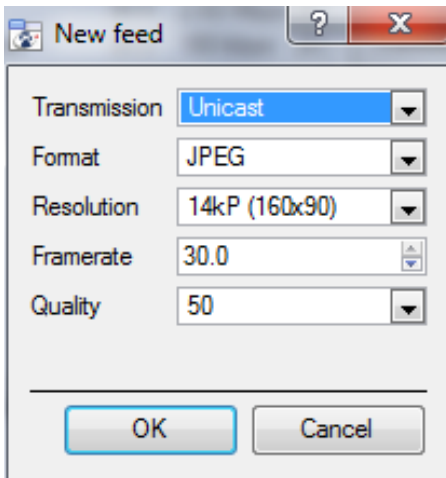


The screenshot shows a 'New camera' dialog box with the following sections:

- Video feeds**: Setup video feeds. A table lists four feeds:

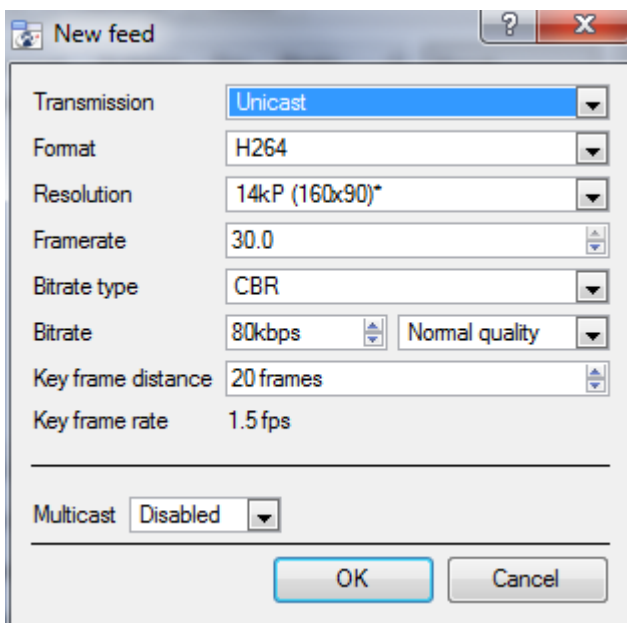
	Format	Res.	Live	Rec. channel	Analyt
1	H264	1.0MP (1280x800)	Yes	#1 (default)	
2	Unused (unicast)				
3	Unused (unicast)				
4	Unused (unicast)				
- Feed**: Configuration for the selected H264 feed:
 - Format: H264_CAT
 - Resolution: 1280x800
 - Framerate: 30.0
 - Bitrate: 2.60 Mbps
 - GOP length: 20
 - Quality: 100
- Live**: Live viewing is enabled on 1 of the feeds.
- Recording**: Recording is enabled on 1 of the feeds.
- Analytics**: A new feed could be created for analytics.
- Camera Info**:
 - Driver: Axis
 - IP address: 192.168.71.60
 - Model: AXIS M3204
 - Serial number: 00408CA62694
 - Firmware: 5.40.9
 - MAC address: 00:40:8C:A6:26:94
- Buttons**: Edit, Clear, < Back, Next >, Cancel.

6.1.4.1 JPEG



Transmission will show the transmission type
Format is the compression format used by this stream. Click the drop-down menu to choose the one desired.
Resolution is the number of pixels in the image.
Framerate is the number of frames recorded per second
Quality defines how lossy the compression of the image is. At 100 the image will have the best quality; at 50 it will have the lowest.

6.1.4.2 H264



Transmission will show the transmission type.
Format is the compression format used by this stream. Click the drop-down menu to choose the one desired.
Resolution is the number of pixels in the image.
Framerate is the number of frames recorded per second.
Bitrate Type this is the way that the bitrate is handled. A constant bitrate will be more predictable, but will lose more information the more the image changes. Variable bit-rate is less predictable, but will have better images when the picture has more motion.
Bitrate is the amount of information, in bits, that the feed will send per second. (**Quality** defines how lossy the compression of the image is.)
Key Frame Distance is the number of frames between each I-Frame (Key Frame).

6.1.4.3 Multicast

Setup **Multicast** on feeds by selecting the relevant option from the feed dialogue. There are three options; **disabled**, **auto**, and **manual**. To not use **Multicast**, leave this disabled.

6.1.4.3.1 Manual

Multicast

Multicast IP





Multicast port

With manual selected, enter in the **Multicast IP**, and **Multicast Port**.

Auto

On auto, the **Multicast** address will be automatically assigned. The core settings for this may be found in the **Setup Manual**.



6.1.4.4 Feed Notifications

	Live	Live viewing is enabled on 1 of the feeds
	Recording	Recording is enabled on 1 of the feeds
	Analytics	A new feed could be created for analytics 

This area will show the status of the feeds created. Whether **Recording**, **Live Viewing**, or **Analytics** is enabled.

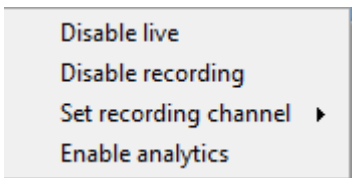
Note: Click on any of the above icons to display some detailed information about the feed/problem.

6.1.4.4.1 Automatic Configuration

If there is an  icon at the end of the feed notification, this means that there is a potential problem with the feed setup. Clicking this  will automatically fix the problem.

6.1.5 Right-Click Menu (Live, Recording, and Recording Channel Settings)




Right-clicking on a feed, **after it is set up**, will bring up the menu seen below.



Disable Live	viewing of the feed.
Disable Recording	of the feed.
Set Recording Channel	Define which channel number will represent this feed.
Enable Analytics	Enable Video Analytics.

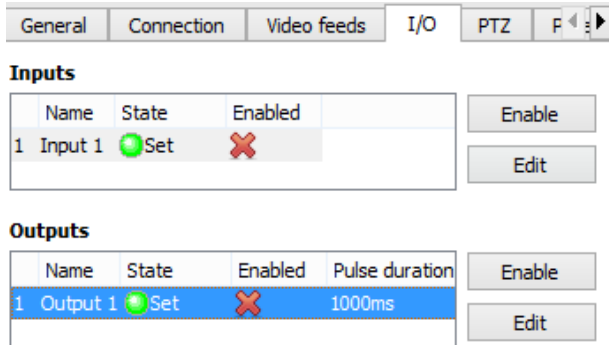
6.1.6 Analytics

In order to enable analytics on a unit, configure a second feed, right-click on that feed, and click **Enable Analytics**. There are a few rules when it comes to enabling analytics.

1. If an analytics-enabled channel is not set up here, there will not be a prompt to add VMD later in this wizard, nor to add VMD, using this feed later.
2. Only Feeds that are QVGA resolution, and lower, will give provide the option to enable analytics.
3. If there is a  at the end of the  **Analytics** feed notification, there is not a feed enabled for analytics. Clicking on the  will automatically enable one.

6.1.7 I/O

The next step in the addition is the I/O setup. The I/O values represented in the GUI will depend on the I/Os provided by the encoder.



I/O

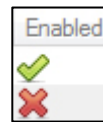
Inputs are used to trigger an event; **Outputs** are used to give a desired output as a result of a triggered event.

Renaming



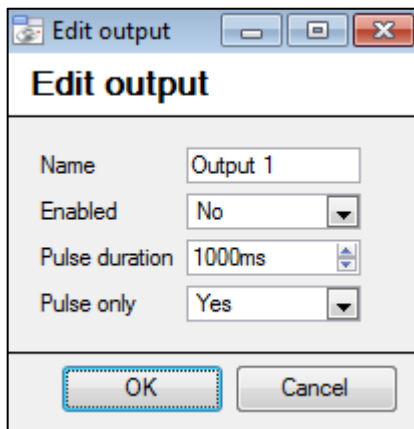
Double click on the I/O name to rename it.

Enabling



Double click on the red cross or click the enable button. Once enabled it may be used to trigger an event.

6.1.7.1.1 Edit an Output



Name

Give the output a descriptive name.

Enabled

Shows whether the output is disabled/enabled.

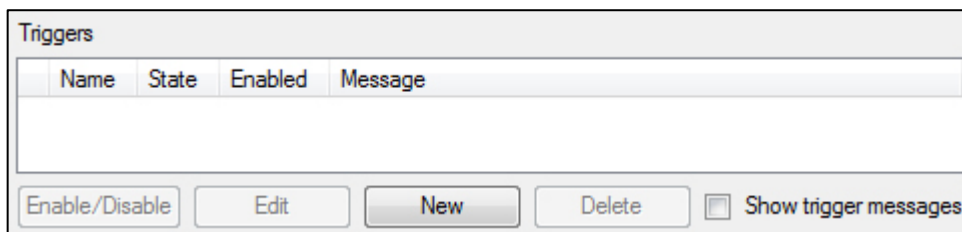
Pulse duration

Will set the amount of time (in milliseconds) that the output will pulse for, if it is set to pulse.

Pulse only

If set to Yes, the output will not allow itself to be permanently Set.

6.1.7.1.2 Triggers

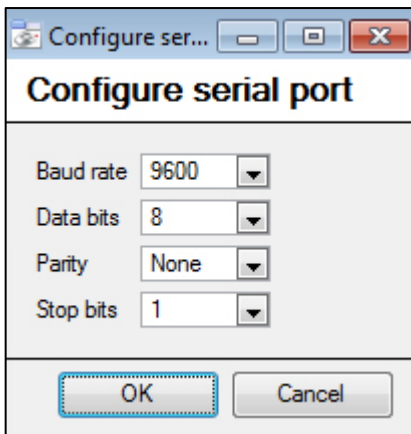



Certain cameras will have their own event triggers, and encoders will often have I/O options.

Note:

- Double clicking on any of the column values of an I/O will toggle the value. E.g. double clicking on a Clear state will change the state to Set). (These options are also available via the Right-Click menu.)
- Give the I/Os descriptive names, otherwise they will not be identifiable.

6.1.8 Serial Ports

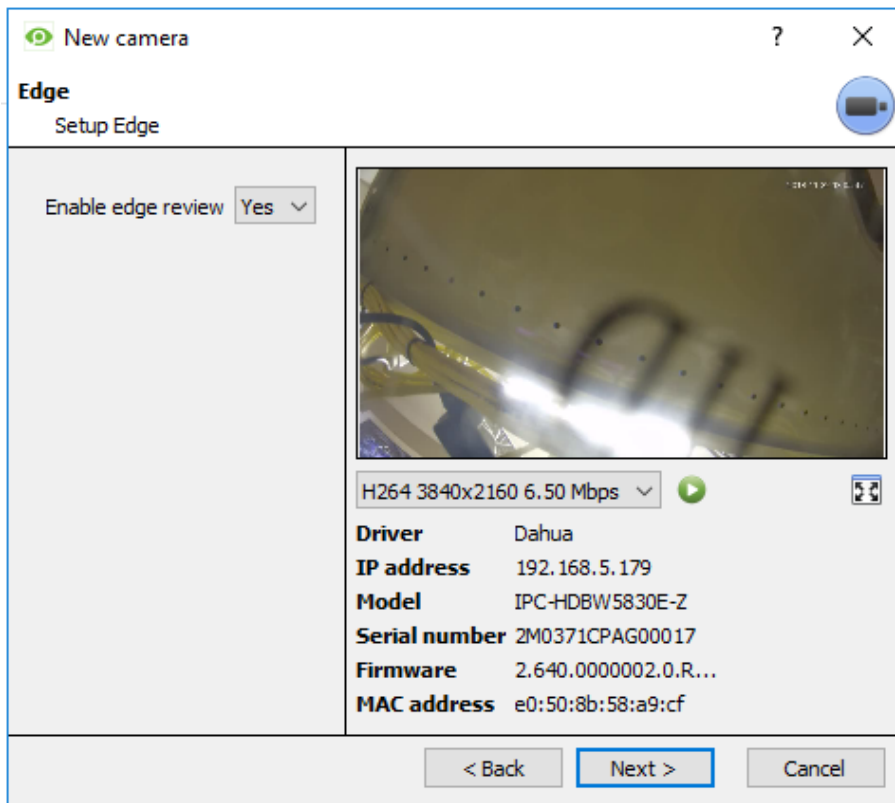


Highlight the serial port to configure, then click the  button.

This will provide the option to change the **Baud rate**, **Data bits**, **Parity** and **Stop bits**, and other camera dependent settings.

Note: This option will only be available if the camera has serial ports.

6.1.9 Camera Edge Review Setup



Cameras which support Edge recordings will have an additional tab in the camera wizard, which enables viewing of the camera's onboard Edge database within CathexisVision.

Select **Yes** from the drop-down menu to enable the database.

When this is enabled, the camera's Edge database will be available for selection in camera review, as with other CathexisVision system databases.

If this is disabled, the database will not be available for selection.

6.1.10 Pan-Tilt-Zoom (PTZ)

Check the **Enable PTZ** box, if adding a PTZ camera. After this, all the available PTZ options will appear in the wizard interface:

6.1.10.1 General Settings

Enable PTZ

Protocol

Address

Port

Preset 1 name


Zoom speed

Home position

Go home during schedule

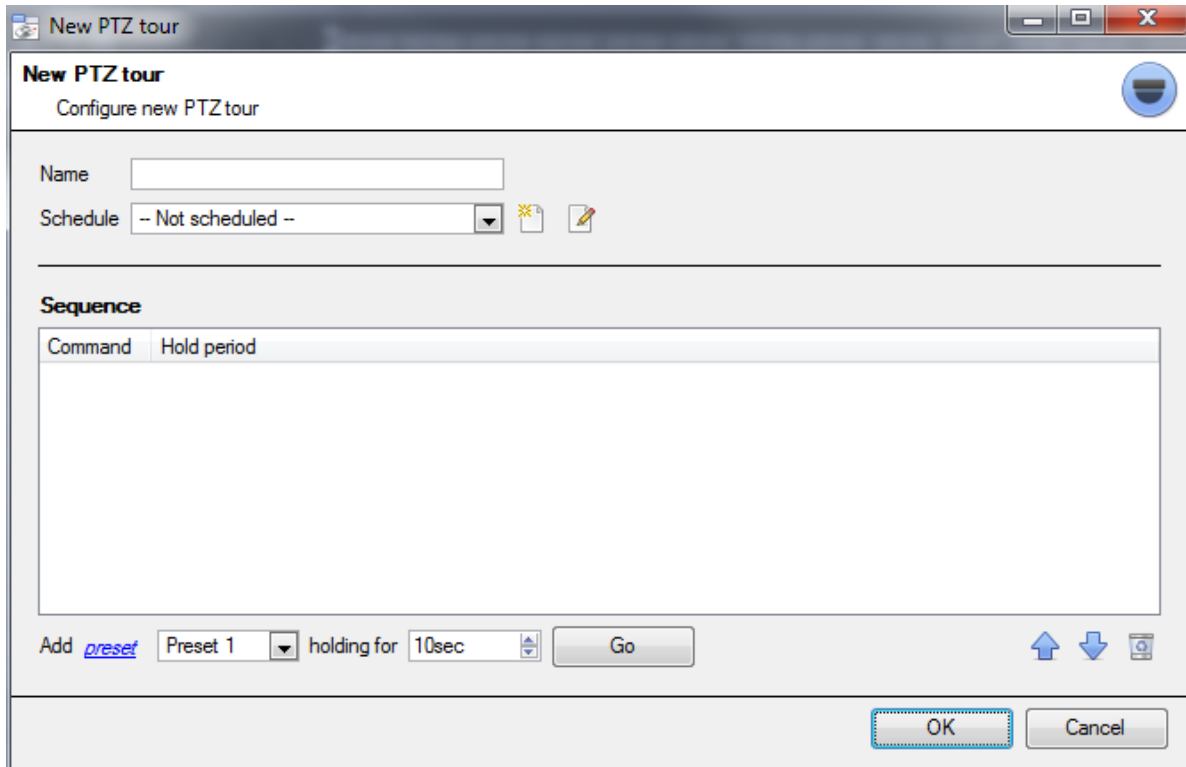
Switch wash/wipe relays

Note: These options can vary on a camera-by-camera basis.

Preset Name	Give the Presets descriptive names (such as 'front door' etc.)
Zoom Speed	This defines how fast the camera will zoom in when using the PTZ controls. Note: Use the live view panel, to the right, to see if the zoom speed is satisfactory. Test this by clicking on  on the PTZ control wheel.
Home Position	A home position is a pre-set position to which the camera will return to after a set period of inactivity. Automatic Return to Home Set a schedule during which the camera will return to its home position. When the schedule (see: Error! Reference source not found.) is inactive, the camera will remain in the last position that it was left in. If there is no schedule set, the camera will never return automatically to its home position. To have it always return home after a period, simply enable the Every Day schedule.
Switch Wash and Wipe Relays	In the case that the Wash and Wipe relays are incorrectly attributed, this will swap them over to the correct order.
Configure PTZ tours	A PTZ tour will run through a sequence of pre-set positions. (See section immediately below.)

6.1.10.2 Configure PTZ Tours

If the device supports Tours, to create/edit a PTZ tour click on ; this will navigate to the list of tours. To create a new tour, click on .



Name and Schedule

Name

Schedule -- Not scheduled --

Give the tour a **descriptive name**, and, if desired, a schedule (see: [Error! Reference source not found.](#))

Sequence

This is the sequence that the Presets will run in.

6.1.10.2.1 Add Preset, Multiple Presets, or a Pattern, to the tour

Preset

Select the Preset, set how long the camera should linger at this Preset.

Add *preset* holding for

Multiple Presets

- **Starting at:** Select the first Preset to add.
- **Add:** This is the number of Presets to add.

In the example below, Presets 4 to 6 are being added.

Add *multiple presets* starting at add presets, holding for

Pattern

Select the pattern to add.

Add [pattern](#) 1 holding for 10sec

6.1.10.3 PTZ Procedures



With a Pan-Tilt-Zoom (PTZ) camera an operator can manipulate the camera's direction, Zoom, focal distance (Focus) and amount of light (Iris). The operator can also control pre-configured camera views called "Presets".

A Dome Control Panel becomes available when a Live PTZ camera is selected in the CathexisVision interface.

Click the panel's dropdown menu and select **PTZ** (see below). The software joystick displays:

Note: Don't forget to select/play a live feed.

6.1.10.3.1 Using the PTZ Control Panel

Pan Left/Right:



Drag joystick left / right.

Tilt Up/Down:



Drag joystick up / down

Move Camera Faster:

Distance determines speed - drag joystick out, in required direction.

Move Camera Slower:

Distance determines speed - drag joystick closer in, in required direction.

Zoom In/Out:

Watch the live camera while pressing the Zoom + and Zoom – button.

Focus Further/Closer:

Watch the live camera while pressing the Focus + and Focus – button.

Go to Preset:

1. Select the Preset from the dropdown, and then click GO.
2. The camera view will change to the Preset.
3. To relinquish manual control of the dome/PZ camera from the PTZ panel, click Auto.
4. If the system runs remote tours automatically, or switches displays based on events, these automated responses will take over.

Gain Control of Dome/PTZ:

(Applies if system runs remote tours automatically, or switches display based on events.)

Either click manual, or simply move the software joystick.

Lighten/Darken Live Camera View:

Define a Preset:

Press the iris+, or iris – button. The image will lighten or darken.

1. Select the Preset number, from the dropdown menu.
2. Use the joystick controls to establish the camera View, Zoom, Focus and Light (Iris).
3. Click SET.
4. Go to this Preset to check it.

6.1.10.3.2 PTZ Priority Control

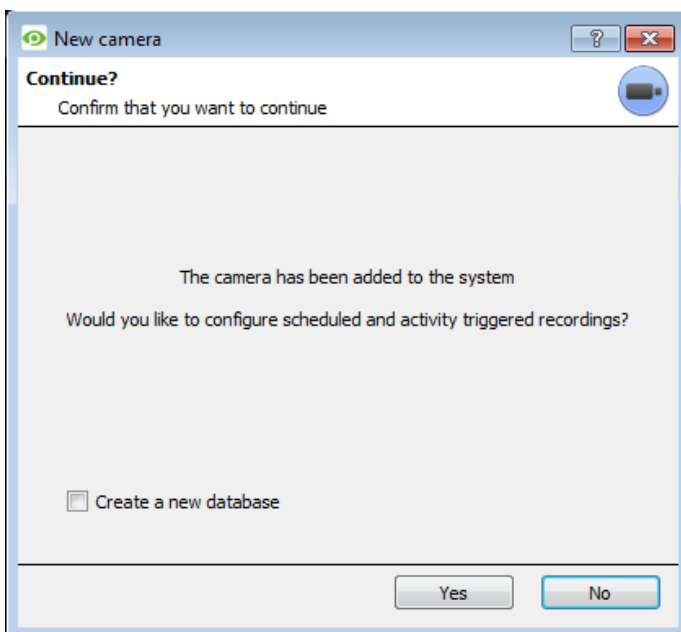
Control of a PTZ camera works on a priority system to determine who gets control of the camera should more than one user at a time attempt to control the camera. Administrators get the highest priority, after which the priority hierarchy runs from user level 30 down to user level 1. For example, should a level 10 user and a level 1 user attempt to control the PTZ camera, the level 10 user will get priority control. An administrator would get priority over both.

Note:

1. If two users of the same user level attempt to control the camera, then the first user gets priority and the second user will have to wait until the ‘Dome override’ period has elapsed.
2. Manual control of the camera takes priority over event-initiated/auto control of the dome.

6.1.11 Scheduled and Activity Triggered Recording: Database

Once PTZ configuration is complete, the camera will have been added to the system and the user is presented with the option to configure scheduled and activity triggered recordings.



Recordings require a database.

If a database has not yet been created, select **Create a new database** and click **Yes** to create a database and configure recordings.

If a database has already been created, leave the option unselected and click **Yes**.

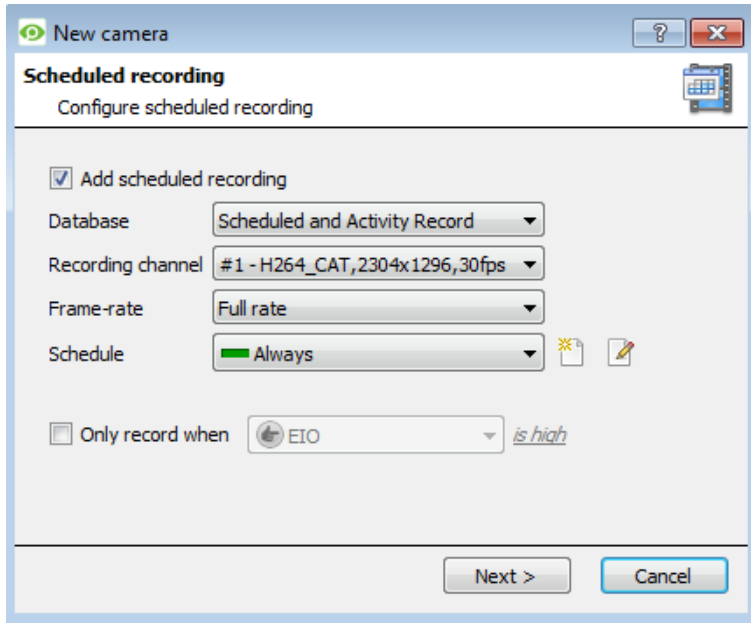
If recordings are not required, click **No**.

Note: Activity Scheduled recordings only available if at least one of the streams has been enabled for video analytics.

Note: This will setup the database on the recording server that the camera has been added to, not the local unit (unless the recording server is the local unit). For further information on setting up a database, please consult the Databases section.

6.1.11.1 Add Scheduled Recording

Set the camera to only record at certain times, to increase efficiency and save disk space.



Click Add scheduled recording .

Select the **database**, **channel**, and **frame-rate** to apply a schedule to.

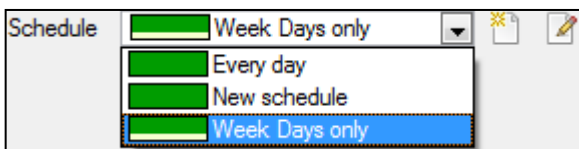
Setup the **Schedule** during which the cameras should record. Select an existing schedule or create a new one. See below.

Select Only record when to conditionally record based on the state of an input. See below.

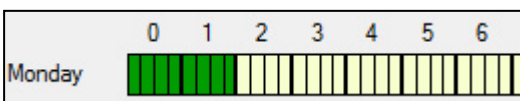
Input Condition: Check the box to **only record when...** then select an input from the dropdown menu, and modify the condition requirement of that input by clicking on the blue hyperlink next to the menu. This sets the scheduled recording to record based on the condition of an input. Inputs include existing schedules, virtual inputs, analytics algorithms, etc. See the Scheduled Recordings section of Configure Servers for more information.

Note: The recording will be continuous, unless an input condition is enabled (depending on the schedule selected for the recording).

6.1.11.1 Set Up a Schedule



Select the schedule from the drop-down menu. Create a new schedule by clicking on the icon. To change an existing schedule, click on the button.



Select/Deselect time cells.

Left click to **select recording time** – the green bars.

Right click to **unselect recording time** – the yellow bars.

Monday will be recording from 00:00 – 02:00 in the morning.

6.1.11.2 Activity Recording

Note: This does a number of things. This will add Video Motion Detection, pre-event recordings, and an Event to the system.

6.1.11.2.1 Recording

Add activity triggered recordings

Event **Video analytics**

Name

Database

Schedule

Recording channel

Frame-rate

Record pre-events at

The recording option allows setup of the recording settings.

Database is the database this event will record to. **Schedule** defines when this event will be active.

Recording channel defines which video channel will be recorded.

Frame rate defines the frame-rate that recordings will take place in.

Pre-events define a time that will be buffered, and recorded, from before the initial trigger.

6.1.11.2.2 Activity

The default algorithm here is the Basic Video Motion detection.

The settings for Video Motion Detection are too detailed to go into under this section, for a full description see the Video analytics section of this document.

6.2. Copy/Paste Cameras

If adding more than one camera that operates on the same driver, **CathexisVision** offers a very easy solution. Copy and paste new cameras, using the addition information of one previously added camera.

To Paste New cameras, right-click on the previously added camera and click **Copy**. Then right click anywhere in the Cameras Panel and click **Paste new...**

6.2.1 Paste Mode: Sequential

The paste mode sequential window provides the option to add the new cameras as a direct copy of the camera copied.

Select paste mode

Number of cameras to add

Start IP address

Number of cameras per encoder

Start input

Start IP Address will determine the IP address of the first new camera being added. The IP addresses will be incremented from here. (So make sure to have no used IP addresses in this range.)

Number of cameras per encoder must be the full number of channels available on this encoder.

Start Input is the actual physical channel to add the first camera to.

6.2.2 Paste Mode: Discovered

Select paste mode

Discovered cameras			Selected camera settings
Address	Model	Camera name	Camera name
<input checked="" type="checkbox"/> Cameras			
<input checked="" type="checkbox"/> 192.168.70.101	Cathexis HDE1004		<input type="text" value="-- AUTO --"/>
<input checked="" type="checkbox"/> Input 1		-- AUTO --	<input type="button" value="Set name"/>
<input checked="" type="checkbox"/> Input 2		-- AUTO --	<input type="button" value="Auto-name"/>
<input checked="" type="checkbox"/> Input 3		-- AUTO --	
<input checked="" type="checkbox"/> Input 4		-- AUTO --	
<input checked="" type="checkbox"/> 192.168.70.103	Cathexis HDE1004		
<input checked="" type="checkbox"/> Input 1		-- AUTO --	

Note: This will copy the video settings from the copied camera onto the discovered cameras selected.

6.2.3 Copy/Paste Video Settings

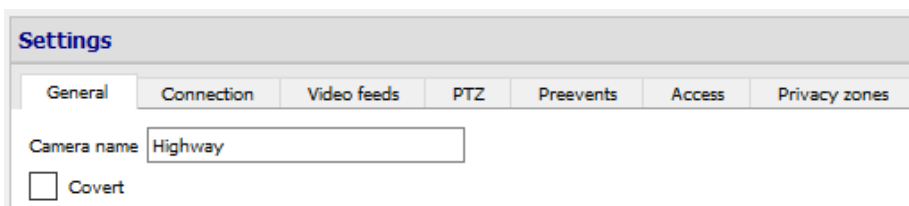
If a number of cameras with the same drivers have been added, and the user wishes to transfer the Video Settings of each camera across, then right-click and select **Copy**. Right-click on a camera, and select **Paste video settings** to add the video settings to it.

Note:

- This is just the Video Feed settings; it will not add Video Motion Detection analytics.
- Only copy onto cameras that have the same driver as the camera that has been copied.

6.3. Edit Existing Camera

Note: To make any changes to the setup of a camera that is currently multicasting, restart the streams. This simply entails removing and reselecting the cameras in the Cameras tab, after settings are saved.



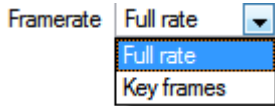
Edit an already added camera by returning to **Setup Tab** → **Configure Servers** → **Cameras**, selecting a camera and clicking . This will bring up an interface with tabs containing the cameras editable details.

6.3.1.1 Repeated Options

The camera setup options of **General**, **Connection**, **Video Feeds**, **I/O**, and **PTZ** are all dealt with in section 6a (above), and they will not be repeated here. However, the Pre-events, Access and Privacy Zones tabs will be dealt with here.

Note: The **Wizard** process encompasses setting up a **Database**, **Scheduled Recordings**, and **Video Motion Algorithm** triggered recordings; these appear as individual panels in **Configure Servers** and not as options within the **Edit** tabs.

6.3.2 Pre-events Tab





Pre-events were setup under the **Activity Recording** section of the **Wizard**. The number of pre-events cannot be defined here, but the frame rate of the pre-events may be defined in this tab.

Note: JPEG is recorded in Key Frames, so there will only be the option of *Frames per Second* when setting the pre-events on a MJPEG stream.

6.3.3 Access Tab

Under the **Access** tab, setup which user access levels have control of the different facets of the available cameras.

	Live	Review	PTZ	PTZ menu	Set presets	Audio listen	Hide privacy zones	Set all
Level 1	✗	✗	✗	✗	✗	✗	✗	✓ ✗
Level 2	✗	✗	✗	✗	✗	✗	✗	✓ ✗
Level 3	✗	✗	✗	✗	✗	✗	✗	✓ ✗

Live	This controls which Access Levels can view the camera's live feed.
Review	This controls which Access Levels can review recorded footage from this camera.
PTZ	This controls which Access Levels can control PTZ movement.
PTZ Menu	This controls which Access Levels have the ability to change PTZ menu.
Set Presets	This controls which Access Levels can change PTZ Preset positions.
Audio Listen	This controls which Access levels can listen to the audio from the onboard mic.
Hide privacy zones	This controls which Access Levels can hide privacy zones on the camera image.
Set All	Selecting  will give this level access to all settings; selecting  will give this level access to none.

6.3.3.1 *Important Note on Access Rights:*

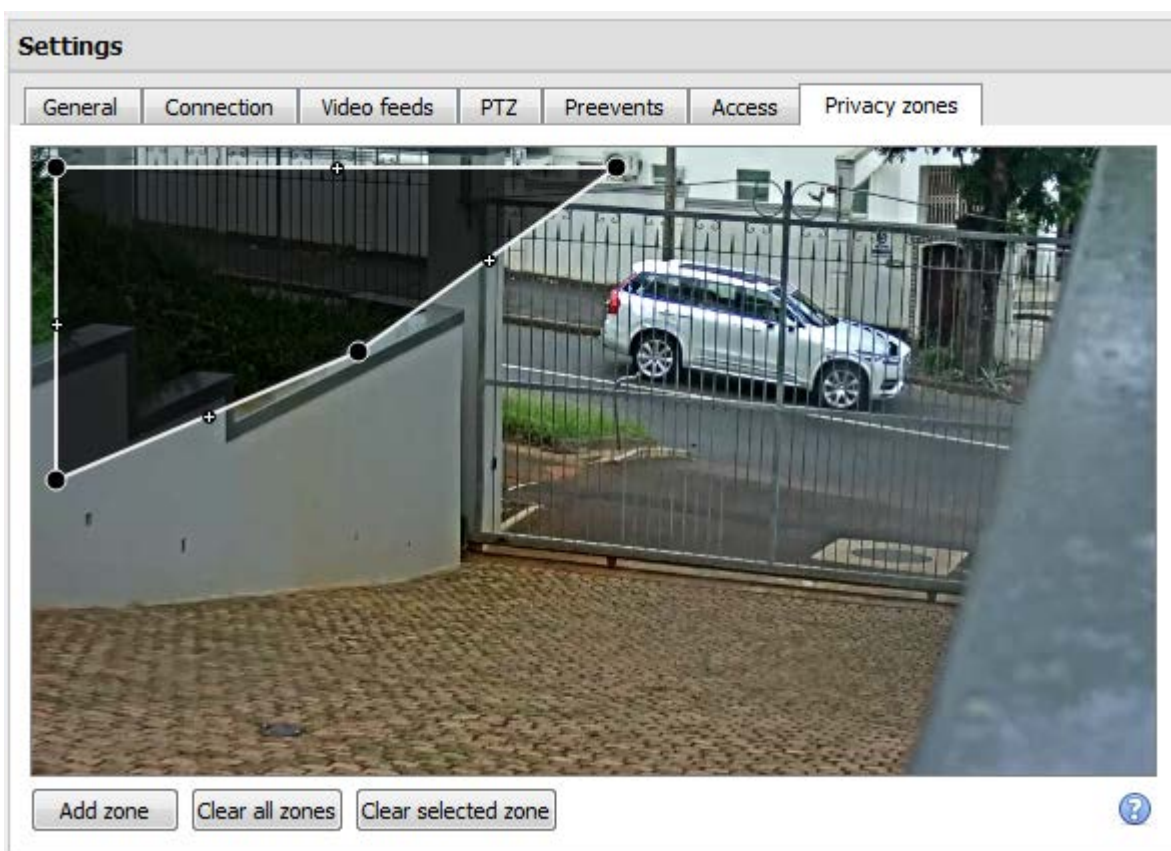
1. All access levels on this unit are managed in the Access Rights Panel of the Server (**Site → Open Tab → Setup → Configure Servers → Expand the Server → Access Rights**).
2. Access rights pertain to the access levels assigned to specific users. If a user is given a level 1 access level, and this camera is only assigned to other levels, that user will not see this camera. Users are managed in **Site → Open Tab → Setup → Users**.
3. Non-admin users may be given the right to configure other non-admin users. See the main Setup manual for more information on this.

6.3.3.2 *Audio Listen Access Right*

The table below details situations in which the Audio Listen access rights settings configured by the user do and do not apply.

Audio Listen access right settings <u>do apply</u> to:	Audio Listen access right settings <u>do not apply</u> to:
Live viewing. Reviewing from the camera tab. Reviewing from the database tab (both video and integration databases). Viewing video when handling an alarm in the Alarm Management Gateway.	Independent audio channels. Archived video. Connecting to a 2016.2 server using a 2015/2016.1 viewer. Connecting to a 2016.1 server using a 2016.2 viewer.

6.3.4 Privacy Zones



Using privacy zones, certain areas of the camera image can be blocked from view. They can be hidden (removed) by operators who have been granted access rights to do so (see above). Otherwise, privacy zones can be set to blacken out the sensitive information on the camera image, and will reflect in snapshots, recordings, and review.

Add zone

Add a new privacy zone to the camera image.

Clear all zones

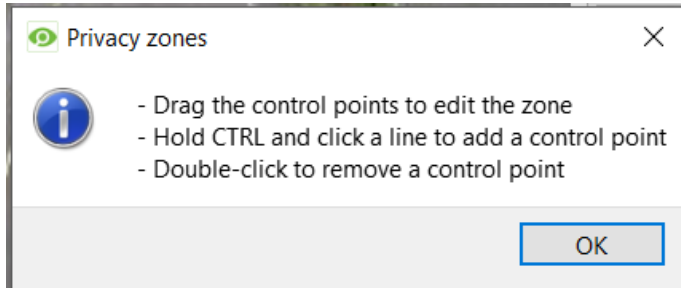
Clear all privacy zones from the camera image.

Clear selected zone

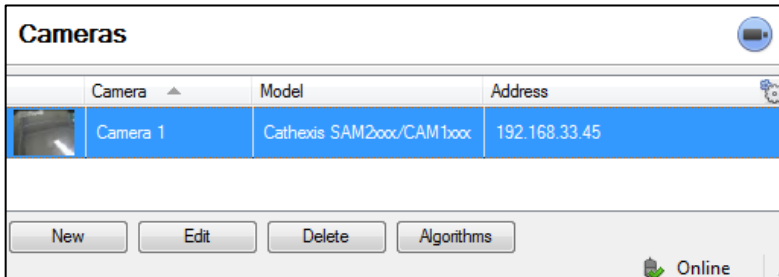
Clear only the selected zone from the camera image.



Click this to show instructions on defining the shape of a privacy zone:



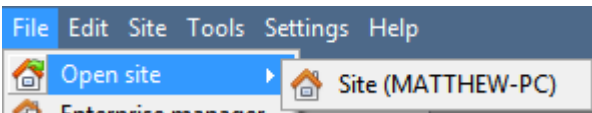
6.3.5 Camera Successfully Added



The camera has now been setup and will start recording as configured. From this screen, one can now add another camera or edit the camera that has just been setup.

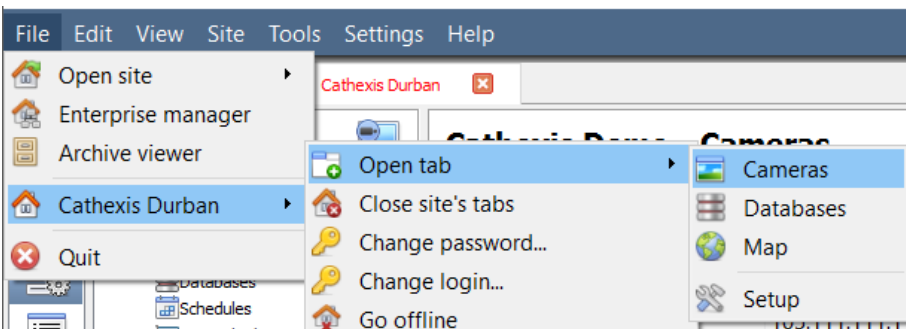
6.4. View Camera/s

6.4.1.1 Open Site



File → Open Site → Your_Sites_Name.

6.4.1.2 Open the Cameras Tab



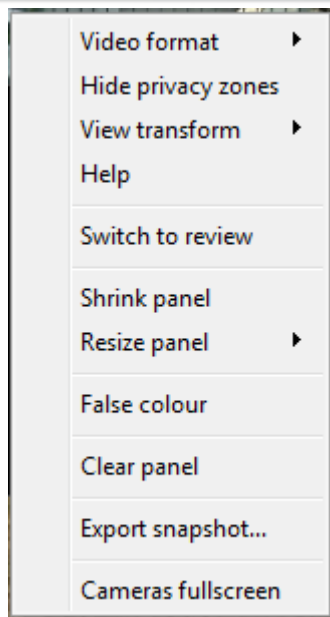
File → Your_Sites_Name → Open Tab → Cameras.

Double click on a camera in the **Resources** panel, to start viewing it.

6.4.2 Middle Click on a Live Camera

Note: The following instructions are for old style mouse handling.

To change aspects of how the camera appears in a panel.



Video format: Allows the user to select which of the camera's video streams (which format/resolution) they wish to view.

Hide/show privacy zones: Will hide/show privacy zones on a camera image depending on access rights.

View transform: Allows transforming images for cameras with special lenses. (E.g. 360-degree cameras.)

Overlays: Allows viewing the different analytics algorithms that have been applied to this camera's feed, live in the Cameras Tab.

Help: Pops-up a help window on Digital Zoom, and PTZ Control within this panel.

Switch to review: Allows switching back and forth between live and review footage.

Shrink panel: Reduces the size of the camera panel.

Resize panel: Gives more resizing options.

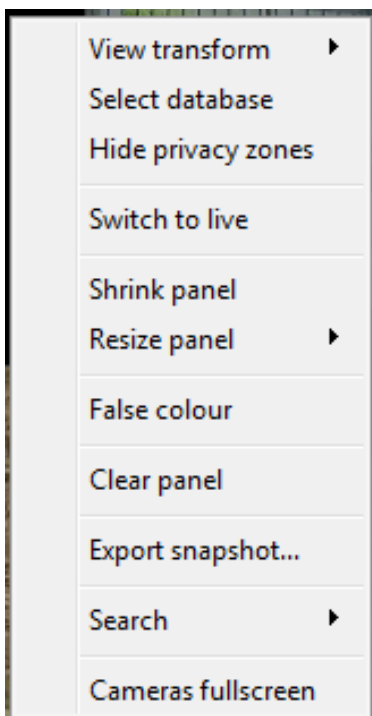
False colour: Changes the colour of the image to false colour.

Clear panel: Removes the camera/s from the currently selected panel/s.

Export Snapshot...: Opens a window, which allows one to print a snapshot, save to folder, copy to system clipboard, or copy to CathexisVision clipboard. Also choose to include the camera name and time of snapshot in the overlays.

Cameras fullscreen: Fills the entire screen with the Cameras Panel; creating a Video Wall. The same procedure will exit fullscreen mode.

6.4.3 Middle-Click on a Camera in Review



View transform: Allows transforming images for cameras with special lenses. (E.g. 360-degree cameras.)

Select database: If multiple databases are set up, set a camera to record to a certain database using this option.

Hide/show privacy zones: Will hide/show privacy zones on a camera image depending on access rights.

Switch to review/live: Allows switching back and forth between live and review footage.

Shrink panel: Reduces the size of the camera panel.

Resize panel: Gives more resizing options.

False colour: Changes the colour of the image to false colour.

Clear panel: Removes the camera/s from the currently selected panel/s.

Export snapshot...: Opens a window, which allows the user to print snapshot, save to folder, copy to system clipboard, or copy to CathexisVision clipboard. Choose to include the camera name and time of snapshot in the overlays.

Search: Use snap-search feature to search the database for snapshots similar to the current image.

Cameras fullscreen: Fills the entire screen with the Cameras Panel; creating a Video Wall. The same procedure will exit fullscreen mode.

7 Events

Events are located under **Site** → **Setup** → **Events**.

When creating the VMD, it will be immediately added as an event. This VMD setup can be used in other events. From the Events panel, edit current events, create new events, or delete events that are no longer desired.

Double clicking on, or editing, an event will allow adjusting the **Schedule**, **Resources**, **Triggers**, and **Actions** as required.

- A **Trigger** sets off an event. There can be more than one trigger per event (e.g. VMD from two cameras will cause the same Action).
- **Actions** are taken by the system as a result of the Trigger.

Note: The “Resources” section pertains to the ability to switch the display on a Client Viewing PC [to a relevant camera’s stream], as a result of an action. This does not affect which cameras will be recorded.



8 Uninstall

To uninstall, simply follow the uninstallation process that is native to the operating system on which **CathesisVision** is installed.