



CathexisVision 2024

Server Software

Quick Start Guide

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1. Introduction

This QuickStart guide provides basic instructions and information to set up a **server** with CathexisVision 2024.1. The objective of this document is to get the software up and running as quickly as possible.

For more detailed information (such as configuring video analytics, failover, etc), please consult the *CathexisVision Setup Manual* or contact Cathexis support at support@cathexisvideo.com

Note: In order to use this document and software, it is assumed that the installer has a basic understanding of the operating system and can do simple administrative tasks. These include adding disks, adding printers, or setting IP addresses.

1.1 Client and Server Software

Server software	The CathexisVision Server software can be installed on a suitably specified hardware server platform for an advanced and comprehensive site video configuration and management system.
Client software	The CathexisVision Client software gives the ability to connect remotely from a Windows OS PC into a CathexisVision server as a client station, without the need for a full server installation. The Client software access to the server is dependent on the login credentials as configured on the server. This can be from Administrator level with full site configuration rights, down to Operator level, with restricted access to site resources.

1.2 CathexisVision Information

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.

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>

2. Requirements and Restrictions

Please [download CathesisVision software](#) to continue with this *Server Software Quick Start Guide*.

Note: There is a **minimum requirement of 8 Gigabytes of RAM** to run this software.

2.1 Supported Operating Systems

Supported operating systems apply to all contents of CathesisVision software installation, including:

- CathesisVision software
- Map Editor
- Archive Viewer

The table below shows the supported operating systems for major CathesisVision releases.

CathesisVision	2016	2017	2018	2019	2020	2021	2022	2023	2024
Netbsd 4		-	-	-	-	-	-	-	-
Fedora 16				-	-	-	-	-	-
Ubuntu 12						-	-	-	-
Ubuntu 16									
Ubuntu 20	-	-	-	-	-				
Windows XP		-	-	-	-	-	-	-	-
Windows Vista			-	-	-	-	-	-	-
Windows 7							-	-	-
Windows 8							-	-	-
Windows 10 (version 1809)									
Windows 11	-	-	-	-	-				
Windows Server 2008 R2							-	-	-
Windows Server 2012								-	-
Windows Server 2012 R2									-
Windows Server 2016									
Windows Server 2019	-	-	-						
Windows Server 2022	-	-	-	-	-	-			
Windows 32-bit							-	-	-

Supported - Not supported

2.3 Hardware Requirements

The **CathesisVision** software architecture is designed to use hardware system components with maximum efficiency. There are many system issues to consider when choosing server hardware. Some examples are:

- Camera resolution
- **Camera bitrates** for recording
- **Camera Frame rates** and resolution for “live” viewing
- **Video Analytics:** is the I.P camera, or the **Cathesis** software used to perform Video analytics
- Whether viewing cameras “live” from the same server on which the user is recording
- Whether “**multicast**” video is 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 CathesisVision [Design Tool](#) (visit cathesisvideo.com / **Products / Resources / System Design Tool**).

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

- These are conservative figures for recording servers only.
- Live viewing is not included in these numbers.
- 3MP cameras with a 3MP/24fps recording stream.
- CIF/12fps analytics stream running Smart VMD. (**Note:** Not Smart AI algorithm-based analytics).
- External storage on a 1/10 Gbps network.

Note: These guidelines are not exhaustive. For assistance with design, contact a distributor or a Cathesis regional office. Alternatively, navigate to www.cathesisvideo.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 the system is running an anti-virus with active or real-time protection scanning enabled, some CathesisVision folders need to be excluded from anti-virus scanning. This enables CathesisVision to run correctly. The folders which need to be excluded are:

- CathesisVision **Server** installation folder.
- CathesisVision **Client** installation folder.
- Any folders, drives, and volumes where the database or databases reside.

Note: all folders and paths listed below are default installation folders. If the default folder option was not selected during installation, then locate and exclude installation folder (or folders) from anti-virus scanning.

The sections below indicate the **default installation folders and paths** which must be excluded from scanning.

2.4.1 Folders to Exclude From Anti-virus Scanning in CathesisVision

If the system uses a **global anti-virus** (meaning anti-virus protection is applied globally and not to individual units) and different units in the site might have different installation folders, then 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 installation folder or folders from anti-virus scanning.

Software	Folders to Exclude
CathesisVision Server	c:\program files\CathesisVision Server.
CathesisVision Client	c:\program files\CathesisVision Client.
Database folders/drives/volumes	Please locate and exclude.

2.4.2 Third-party Anti-virus Real Time Scanning on CathesisVision Client Units

On a CathesisVision client unit, Windows Defender or other third-party anti-virus real-time scanning component must manually exclude the CathesisVision Server folder from scanning.

2.5 Routing/Port Requirements

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

2.5.1 Ports to Open

Operational Ports	Protocol	Application	Description
80	TCP	Default CatMobile Access	Port required to allow CatMobile client connection to server.
30010-30100	TCP	CathesisVision Software	Required ports for access to the CathesisVision software and associated configuration, live, and recorded view, etc.
30014	TCP	API (CathesisVision 2016 and previous versions) *	Required port to allow API connection to server when using software versions CathesisVision 2016 and previous. Note: Video also needs to be streamed from the server using TCP port 30010.
33104	TCP	API (CathesisVision 2017 and later versions) *	Required port to allow API connection to server when using software versions CathesisVision 2017 and later. Note: Video also needs to be streamed from the server using RTSP on TCP port 554.
30010-30100	TCP	Carbon GUI	Ports required for Carbon to connect to CathesisVision server, MultiSite server, or Enterprise server.
30010-30100	TCP	CathesisVision Mobile	Ports required to allow CathesisVision Mobile client connection to server.
* For full list of API ports, please consult API help guide or contact support@cathesisvideo.com			

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.
N/A	N/A	TeamViewer Access	Application for allowing remote access to a Windows server. No port required.

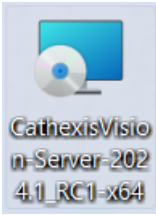
2.5.2 Remote Support

To ensure that remote support is available, please download and install one of the following programs relevant to the operating system.

Linux: Secure Shell (SSH - TCP port 22)

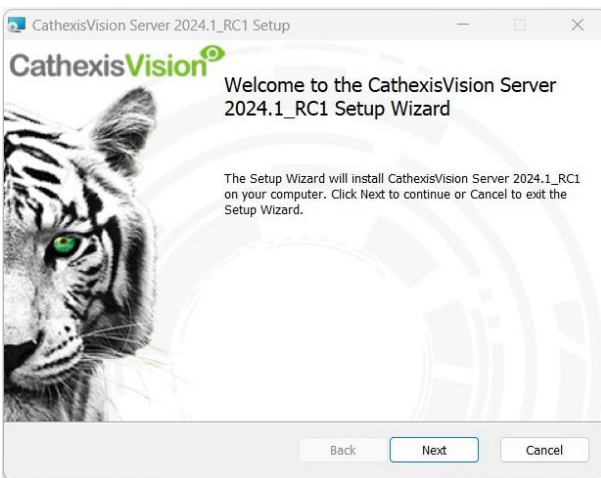
Windows: TeamViewer, AnyDesk, or Remote Desktop.

3. Installation



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

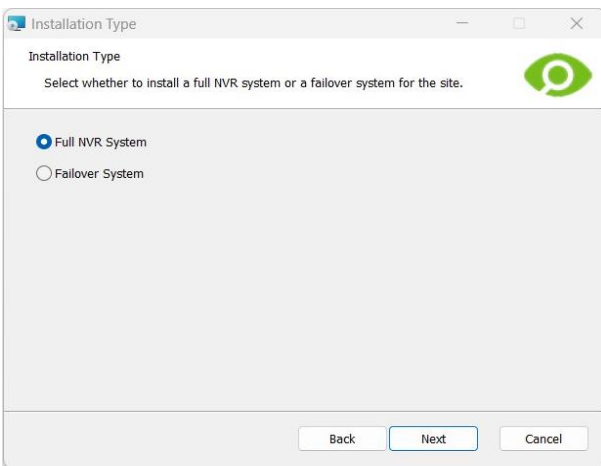
3.1 Follow the Installation Wizard



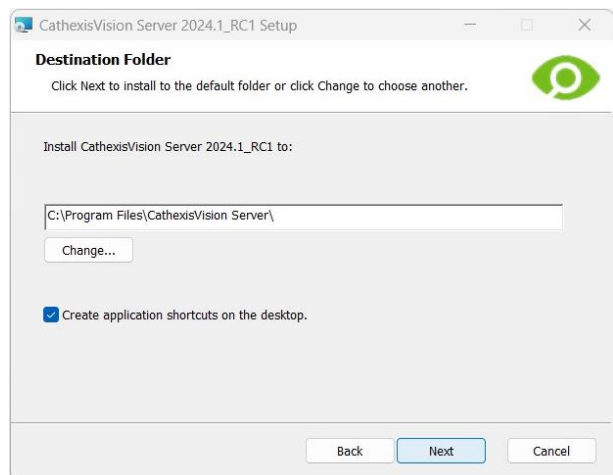
1. Click **Next**.



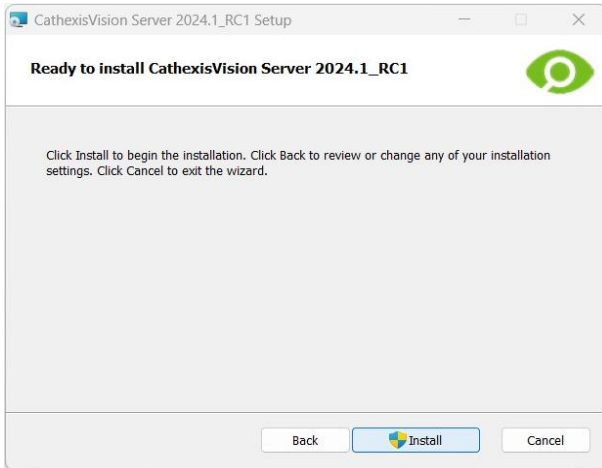
2. Accept the **End User License Agreement**.



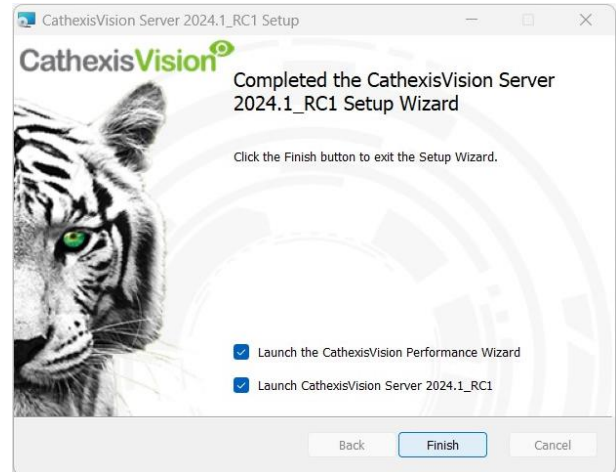
3. The user will be prompted to choose between a **Full NVR System** and a **Failover System** installation.



4. Choose the **installation folder** (it is best to leave this as it is).

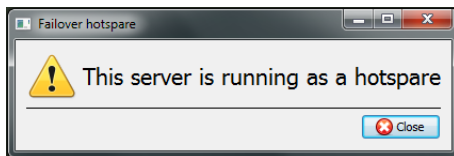


5. Click **Install**.



6. When the installation is complete, click **Finish**.

3.1.1 Failover Installation

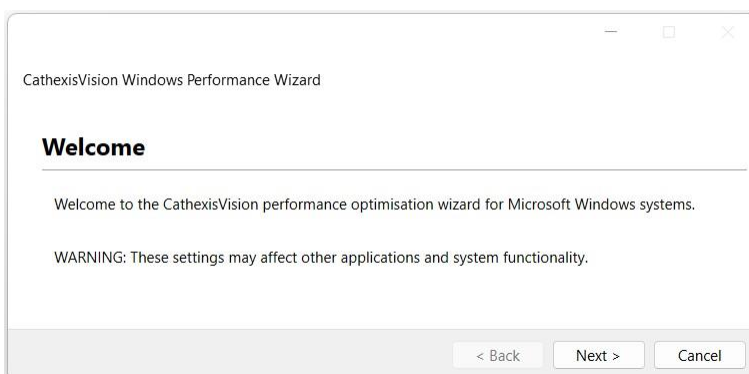


After a successful Failover installation, attempting to initiate CathesisVision (by double-clicking on the CathesisVision icon) will open the dialogue box shown here on the left.

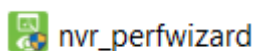
Note: There is further information about Failover in the Setup section of the *CathesisVision Setup Manual*.

3.2 CathesisVision Windows Performance Wizard

The Cathesis Windows Performance Wizard optimises several Windows system settings for use of CathesisVision on a Microsoft Windows server. The Performance Wizard is run after a successful installation.



Note: If the Performance Wizard needs to be run again, the operator will need to navigate to the folder in which CathesisVision is installed. (The default location is **C:/Program Files/CathesisVision Server**)



nvr_perfwizard

In that folder, double-click the file named **nvr_perfwizard.exe**. This will open the Cathesis Windows Performance Wizard.

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

Category	Setting	Explanation	Action
Filesystem Optimisations	Disable Last Access Timestamp for NTFS partitions	By default, when a file is accessed, NTFS writes information to record when the file is last accesses. To improve NTFS disk performance, disable the NTFS last-accessed timestamp.	Required
Power Management	Enable the High-Performance power management scheme	Adjusts Windows power scheme settings to ensure uninterrupted recording and live viewing.	Recommended
Background Services	Add exceptions to the Windows Defender service	This will provide a performance gain for the caching and writing of video to the underlying software and database folder locations. Refer to section 2.4 for more information.	Recommended
	Disable the Windows Search Indexing service	This provides a significant performance gain by preventing background indexing of the file system.	Recommended

3.3 Start CathesisVision



This is the user interface where the recording parameters are configured. It allows the user to view live video and review recorded video.

Double-click the CathesisVision desktop icon to open it.

3.4 Log In

Default Login Details

Username: admin

Password: admin

4. Licensing

The mode of licensing depends on whether the license task is being performed on the local unit (the unit being worked on) or a remote unit (a viewing unit on which a copy of the software is installed).

This chapter provides a guide for each situation. For details on the licensing structure of CathexisVision, please consult the *CathexisVision Software Product Description and Licensing* Document or contact support@cathexisvideo.com

4.1 Trial License

Once CathexisVision is installed, a trial license is automatically applied to the system. To further license the system, 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 CathexisVision basic analytics.

To obtain trial licenses that unlock additional features, send a request to support@cathexisvideo.com

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 (as long as there is space, the cameras have the requisite bitrates, etc.). However, 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

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

When adding licenses to CathexisVision, there are two methods: internet-based licensing or non-internet-based licensing.

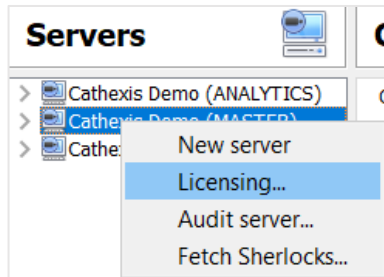
4.2.1 Internet Connection: Product Key

When internet is available on the site server, the most common way of licensing is done using a product key. The product key would be provided by a vendor, the Sales Admin department or the Cathexis support team (support@cathexisvideo.com).

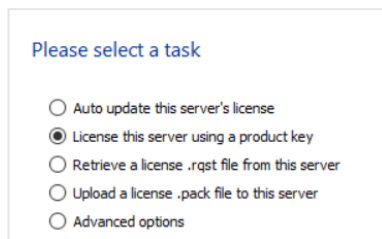
Follow the steps below to license using a product key.

1. → When logged in as an administrator of the software, navigate to the server (preferably the master). Right-click on the server to be licensed. The menu will open.

→ Click **Licensing**.

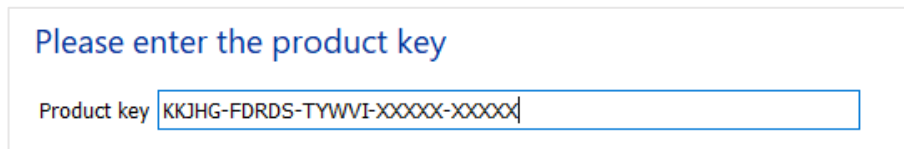


2. → The options of tasks will appear. Click the radio button that says “License this server using a product key”.

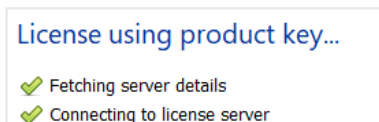


→ Click **Next**.

3. → Enter the product key.



4. The connection to the license server will be made, to add in the relevant licenses as requested from the admin department.



4.2.2 No Internet Connection: Pack File

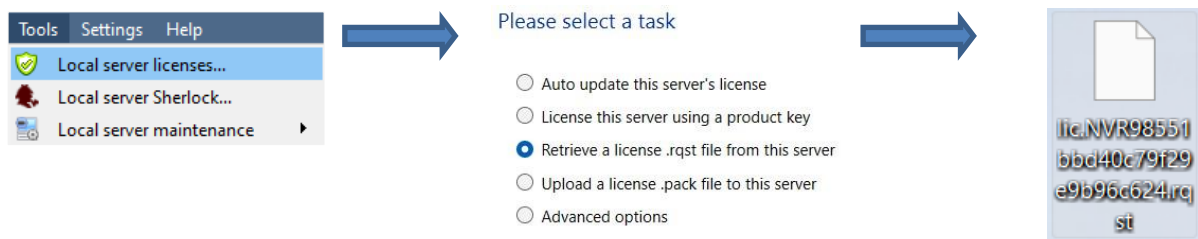
If the unit from which the user is performing the licensing does **not** have internet connection, upload a **.pack** file. A **.pack** file is a file that contains all the licensing information for a unit.

To get a **.pack** file from support@cathesisvideo.com:

1. Save a **.rqst** (request) file from the unit being licensed.
2. Email this file to Cathexis Support, along with the information relevant to the licenses being added to this unit.
3. Cathexis Support will then send a **.pack** file containing the licenses. The licenses can then be uploaded to that unit.

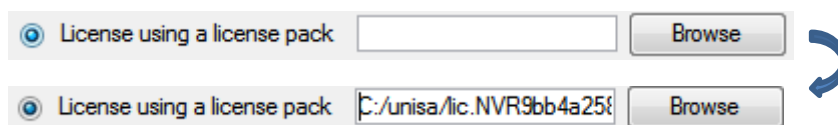
4.2.2.1 License Request File

A **.rqst** file must be retrieved from the unit being licensed. Go to **Tools / Local server licenses...**



Email this **.rqst** file to support@cathesisvideo.com, 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@cathesisvideo.com.

4.3 Licensing from a Remote Unit

The procedure is different when licencing from a **remote** unit (a viewing unit on which a copy of the software is installed). This is because when the user clicks **Tools / Licensing**, the unit on which the user is currently logged in will be the one that is licensed.

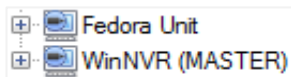
4.3.1 Open Configure Servers

To open **Configure Servers** (in the site that is logged into), follow this path from the menu bar:

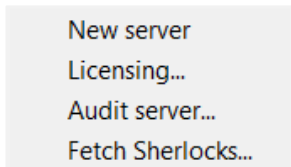
Site / Open Tab / Setup.



→ In the **Setup** tab, click on the **Configure Servers** icon.



→ Once **Configure Servers** is open, right-click on the individual unit to license.



→ Select **Licensing** from the drop-down menu.

Please select a task

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

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

The options shown on the left will appear.

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

To request a license, follow the procedure detailed in [4.2.2 No internet connection](#) section.

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

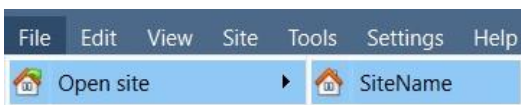
5. The Setup Tab

CathesisVision can run on one individual recording server or on many interlinked servers. Cameras and integrated devices are added to individual servers. Therefore, 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**.

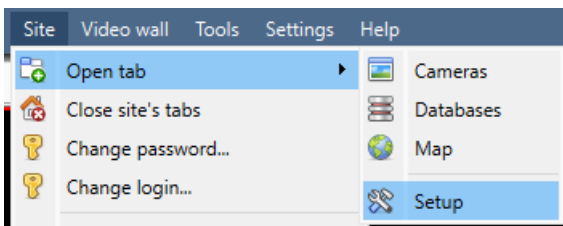
5.1 Open the Setup Tab

Generally, there are two ways of navigating to the **Setup Tab**:

1. File / Open Site / Your_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="text" value="Configure archiving"/>		

In the **General site setup** section, set:

- Site name
- Offline access level
- Default access levels
- Site contact
- Network speed
- Multicast addresses
- Operator archiving profiles.

Apply

Once these settings have been configured, click **Apply**.

6. Cameras

This chapter describes two methods for **adding** cameras, namely, the **Camera Editing** option, and the **right-click menu**.

6.1 Adding Cameras

There are two ways to add a camera in **CathesisVision**:

- The camera **Addition Wizard**. This also provides the option to add databases, schedules, and events to the system.
- The **Copy/Paste** function. This can be found in Section [6.3 Copy/Paste Cameras](#).

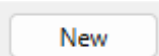
For either method, enter the **Cameras Panel**, which is located under **Configure Servers**.

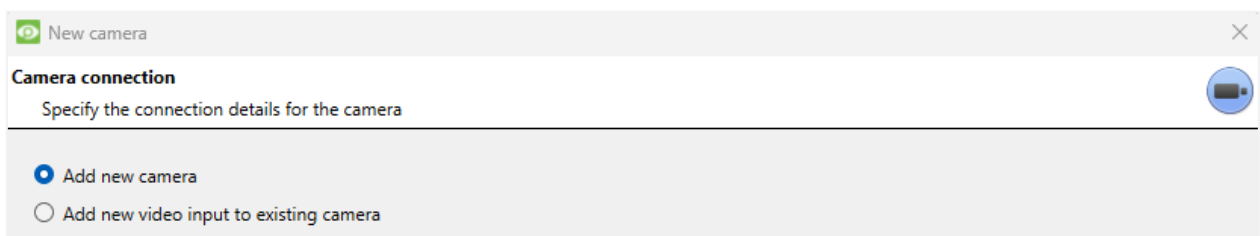
File / Your_Site_Name / Open Tab / Setup / Configure Servers / Expand the appropriate **Server / Cameras**

6.1.1 Camera Addition Wizard

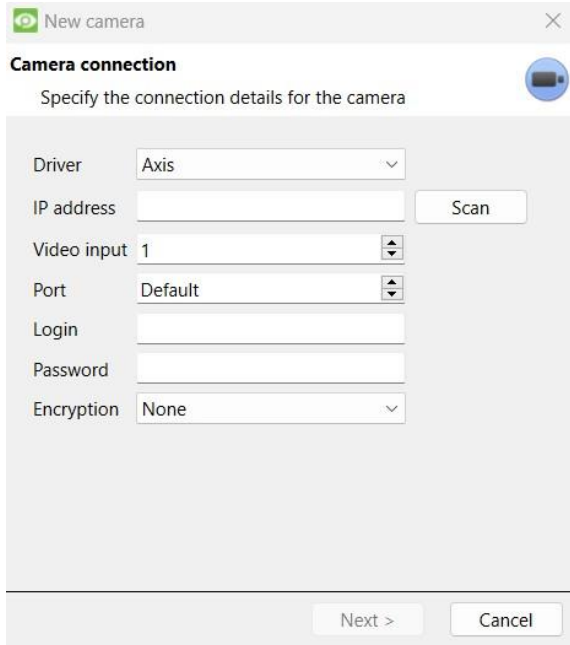
Click on **New** in the **Cameras Panel** to open the **Camera Addition Wizard**. This guides the user through all steps needed to add a camera. It also allows for the creation of databases, schedules, and events in the setup process. There are two phases in the **Wizard**:

- The addition of the camera (or video input).
- 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 **New** button at the bottom of the **Cameras Panel**. The following section guides the user through each step in the wizard.



Note: It is possible to add a new video input to an already existing camera. When a camera already exists on the server, the following option appears in the **New camera** addition window: “Add new video input to existing camera”. This option can be used for configuring cameras with two or more inputs.



Driver: select the relevant driver for the camera.

IP address: set the IP address of the camera.

Scan: scan the network for cameras that have been set up to make themselves available. Click on a camera and it will automatically set its driver and IP address.

Video input: leave it on 1 unless connecting to an encoder that has multiple analogue inputs.

Port: this has a default setting, but can be configured to connect through a desired port.

Login and password: the camera's current login details.

Encryption: set encryption and control as desired on camera models where this is supported by the manufacturer.

6.1.2 Connection



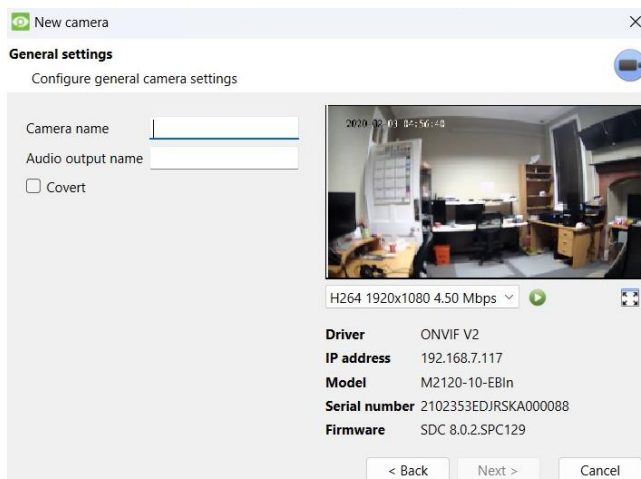
The first step in the Wizard is Camera Connection.

The user can set up the camera's connection.

6.1.2.1 Note on Scanning

- Some cameras do not support automatic location requests and will not be found using Scan.
- Universal Plug and Play (UPnP) must be enabled on the cameras that support location requests.

6.1.3 General Settings



The table below describes this window.

Note: The image in the preview will not reflect the actual quality of the feed, because it is transcoded when viewed in the Camera Addition Wizard.

Name	Give the camera a descriptive name, to make it easily identifiable.	
Covert	CathesisVision provides the option to create a covert camera. There is a <i>difference</i> 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.
Camera Information	This will list all the relevant information pertaining to the device. View it underneath the image preview.	
Live Preview		

6.1.4 Add/Edit Video Feeds

To add or edit a video feed, click on one of the available feeds in the list. Then click on the **Edit** button. This will bring up a feed dialogue with the available video feeds and the options that apply to them.

The screenshot shows the 'New camera' dialog box with the 'Video feeds' section active. It includes a table of video feeds, a 'Feed' configuration panel, and a live video preview.

Format	Res.	Live	Rec. channel	Vi
1 H264	1920x1080 (16:9)	Yes	#1 (default)	No
2 Unused (unicast/multicast)				
3 Unused (unicast/multicast)				

Feed

- Format: H264
- Resolution: 1920x1080
- Framerate: 25.0
- Bitrate: 4.50 Mbps
- GOP length: 20
- Quality: 5

Driver ONVIF V2
IP address 192.168.7.117
Model M2120-10-EBIn
Serial number 2102353EDJRSKA000088
Firmware SDC 8.0.2.SPC129

Buttons: Edit, Clear, Advanced, < Back, Next >, Cancel

The two most common IP feeds are **JPEG** and **H264**.

6.1.4.1 JPEG

Transmission: shows the transmission type.

Format: the compression format used by this stream. Click the drop-down menu to choose the one desired.

Transport: Select the transport protocol. The default option is Cathexis UDP streaming. Other options are RTP streaming using Live555, either over UDP or TCP.

Resolution: the number of pixels in the image.

Framerate: the number of frames recorded per second.

Quality: how lossy the compression of the image is. At 100, the image will have the best quality. At 50, the image will have the lowest quality.

6.1.4.2 H264

Transmission: the transmission type.

Format: the compression format used by this stream. Click the drop-down menu to choose the one desired.

Transport: Select the transport protocol. The default option is Cathexis UDP streaming. Other options are RTP streaming using Live555, either over UDP or TCP.

Resolution: the number of pixels in the image.

Framerate: the number of frames recorded per second.

Bitrate Type: the way the bitrate is handled.

- **CBR:** more predictable, but loses more information as the image changes.
- **VBR:** less predictable, but will have better images when the picture has more motion.

Bitrate: 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: the number of frames between each I-Frame (Key Frame).

Key Frame Rate: demonstrates frame rate.

Audio: this can be disabled or enabled.

Multicast: this can be disabled or enabled.

6.1.4.3 Multicast

Set up **Multicast** on feeds by selecting the relevant option from the feed dialogue. There are three options: **disabled**, **auto**, and **manual**. If **Multicast** is not desired, leave it disabled.

Manual

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

Auto

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

6.1.4.4 Feed Notifications

This area displays the status of the feeds created: **Recording**, **Live Viewing**, or **Analytics**.

Note: If the user clicks on any of the above icons, detailed information regarding the feed or problem will be displayed.

Automatic Configuration

If there is a **spanner icon** at the end of the feed notification, this means that there is a potential problem with the feed setup. **Click on this icon** to automatically fix the problem.

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

After setting up a feed, right-click on it to bring up the menu (shown below). These settings can only be accomplished after the feed is up and running.


Disable live	Disable live	Disable live viewing of the feed.
Disable recording	Disable recording	Disable recording of the feed.
Set recording channel ▶	Set recording channel	Define which channel number will represent this feed.
Enable analytics	Enable analytics	Enable video analytics.


6.1.6 Analytics

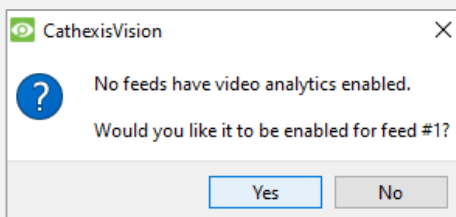
To enable analytics on a unit:

- Configure a second feed.
- Right-click on that feed.
- Click **Enable Analytics**.

There are a few rules regarding 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. It will also be impossible to add VMD using this feed at a later point.
2. Only feeds that are QVGA resolution (and lower) will provide the option to enable analytics.
3.  A **spanner icon** at the end of the **Analytics feed notification** means that a feed for analytics is **not** enabled. Clicking on the icon to automatically enable a feed for analytics.

 **Analytics**
4. **Note:** If the user chooses to proceed without enabling analytics, a prompt will appear. The user can also enable video analytics this way.



6.1.7 Input/Output

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

Inputs

	Name	State	Enabled
1	Input 1	<input type="radio"/> Unknown	✘
2	Button	<input type="radio"/> Unknown	✔

Outputs

	Name	State	Enabled	Pulse duration	Pulse only
1	Output 1	<input type="radio"/> Unknown	✘	1000ms	no

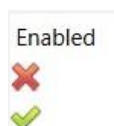
Inputs are used to trigger an event.

Outputs are used to give a desired output as a *result* of a triggered event.

	Name
1	Input 1
2	Button

Renaming

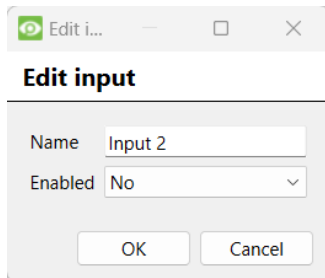
Double-click on the I/O name to rename it.



Enabling

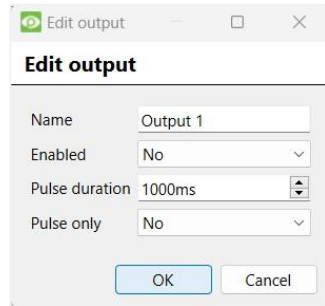
Double-click on the red cross, or click the enable button. Once enabled, it may be used to trigger an event. This may also be done by right-clicking.

6.1.7.1 Edit an Input or Output



Name: Give the input a descriptive name.

Enabled: Will indicate whether the output is disabled/enabled.



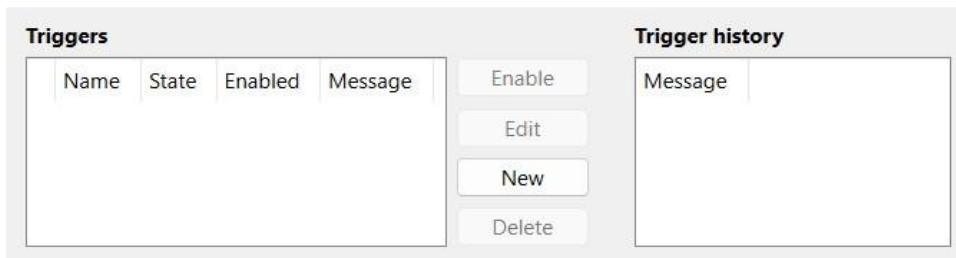
Name: give the output a descriptive name.

Enabled: displays whether the output is disabled or enabled.

Pulse duration: will set the amount of time (in milliseconds) for which the output will pulse (if set to pulse).

Pulse only: if set to Yes, the output will not allow itself to be permanently set.

6.1.7.2 Triggers

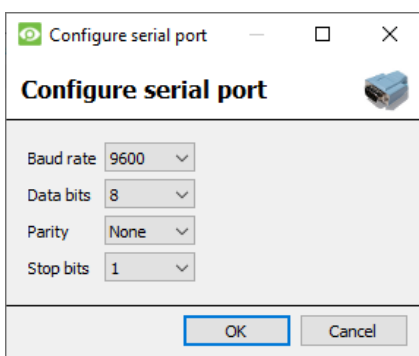


Some cameras will have their own event triggers, and encoders will often have I/O options.

Note:

- Double clicking on any of the column values of an I/O will toggle the value. For example, 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/O's descriptive names, otherwise they will not be identifiable.

6.1.8 Serial Ports



Highlight the serial port to configure. Then click the **Configure** button.

This provides the option to change the **Baud rate**, **Data bits**, **Parity**, **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 that support Edge recordings will have an additional tab in the Camera Wizard. This enables the viewing of the camera's on-board Edge database within CathesisVision.

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 CathesisVision system databases).

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

6.1.10 Pan-Tilt-Zoom (PTZ)

Enable PTZ

Check this box if a PTZ camera is being added. After this, all the available PTZ options will appear in the Wizard interface.

6.1.10.1 General Settings

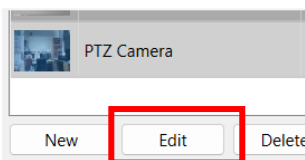
PTZ channels can be added in two ways: by selecting Onboard or a Serial Port.

Note: these options vary on a camera-by-camera basis.

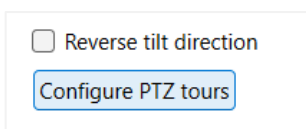
Preset Name	Give Presets descriptive names (such as 'front door' etc.)
Zoom Speed	<p>This defines how fast the camera will zoom in when using the PTZ controls.</p> <p>Note: Use the live view panel at the bottom of the Resources Menu, to see if the zoom speed is satisfactory. Test the PTZ zoom in the setup PTZ control, or use the PTZ control option from the resource panel of the camera view.</p>
Home Position	<p>A home position is a pre-set position to which the camera will return, after a set period of inactivity.</p> <p>Automatic Return to Home: Set a schedule, during which the camera will return to its home position. When the schedule is inactive, the camera will remain in the last position that it was left in. If there is no schedule set, the camera will not return automatically to its home position. To have it always return home after a time period, enable the Every Day schedule.</p>
Switch Wash and Wipe Relays	If the Wash and Wipe relays are incorrectly attributed, this will swap them over to the correct order.

6.1.10.2 Configure PTZ Tours

While adding a PTZ camera in the Camera Addition Wizard the ability to **Configure PTZ Tours** will not be available. To configure a PTZ tour once setup is completed:

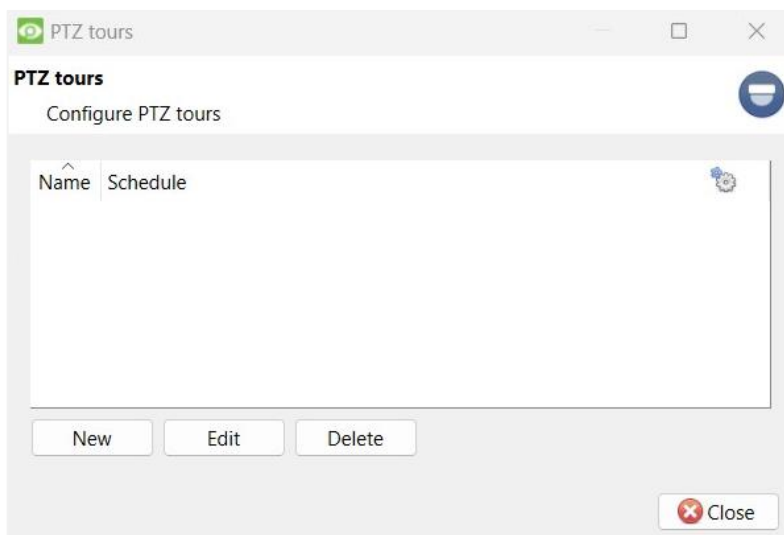


- Select the camera in the Cameras Panel.
- Click **Edit**.
- Navigate to the **PTZ** tab in the Camera Settings.



If the device supports Tours, **Configure PTZ Tours** will appear.

- **Click** the button.



In dialogue box create a **New** tour or **Edit** an existing one as desired.

Name and Schedule:

give the tour a descriptive name and a schedule (if desired).

Sequence: this is the sequence in which the Presets will run.

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

Preset

Select the Preset. Set how long the camera should linger at this Preset.

Multiple Presets

- Click the hyperlink and select **multiple presets**.
- Starting at: select the first Preset to add.
- Add: this is the number of Presets being added.

In the example above, Presets 4 to 6 will be added.

Pattern

Select the Pattern and how long the camera should hold in this pattern.

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”.

When a Live PTZ camera is selected in the CathexisVision interface, a Dome control panel becomes available.

Click the panel’s dropdown menu. Select **PTZ**. The software joystick displays.

Note: remember to select or play a live feed.

Using the PTZ Control Panel

<p>Pan Left/Right:</p>  <p>Drag joystick left or right.</p>	<p>Tilt Up/Down:</p>  <p>Drag joystick up or down.</p>
<p>Move Camera Faster: Distance determines speed. Drag joystick out in the required direction.</p>	<p>Move Camera Slower: Distance determines speed. Drag joystick closer in the required direction.</p>
<p>Zoom in/out: Watch the live camera, while pressing the “Zoom +” and “Zoom –” button.</p>	<p>Focus near/far: Watch the live camera, while pressing the “Focus +” and “Focus –” button.</p>
<p>Define a Preset:</p> <ul style="list-style-type: none"> → Select the Preset number, from the dropdown menu. → Use the joystick controls to establish the camera View, Zoom, Focus, and Light (Iris). → Click SET. → Go to this Preset to check it. 	<p>Go to Preset:</p> <ul style="list-style-type: none"> → Select the Preset from the dropdown. → Click GO. → The camera view will change to the Preset. → To relinquish manual control of the dome or PTZ camera from the PTZ panel, click Auto. <p>If the system runs remote tours automatically, or switches displays based on events, these automated responses will take over.</p>
<p>Gain Control of Dome/PTZ:</p> <p>This applies if the system runs remote tours automatically, or switches display based on events.</p> <ul style="list-style-type: none"> → Click Manual or move the software joystick. 	<p>Lighten/Darken Live Camera View:</p> <p>Press the “iris +”, or “iris –” button. The image will lighten or darken.</p>

PTZ Priority Control

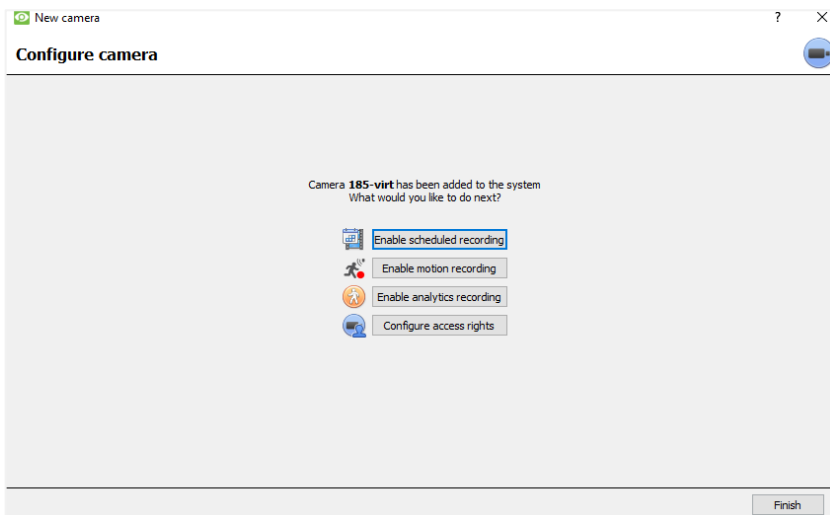
Control of a PTZ camera works on a priority system. This determines who gets control of the camera, if more than one user is attempting to control the camera at the same time.

Administrators get the highest priority. After that, the priority levels run from user level 30, down to user level 1. For example, if 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:

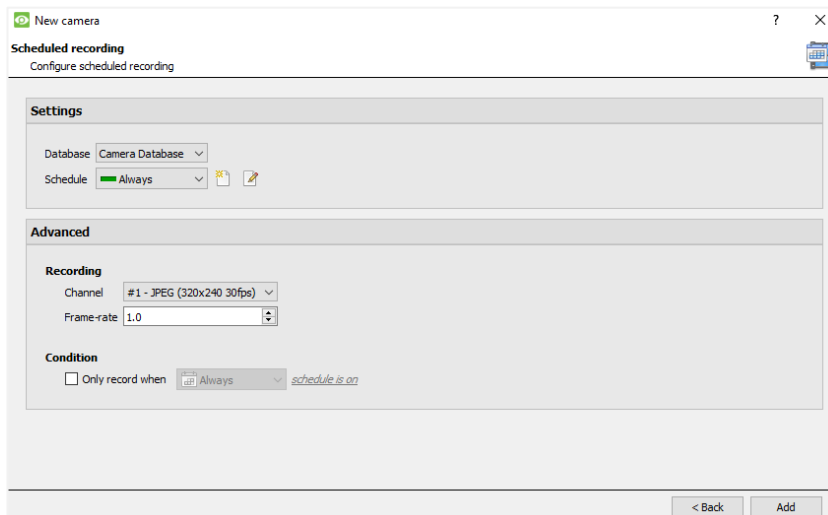
- If two users of the **same** user level attempt to control the camera, the first user gets priority and the second user will have to wait until the 'Dome override' period has elapsed.
- Manual control of the camera takes priority over event-initiated or auto control of the dome.

6.2 Configure Camera



The operator can now add scheduled, motion and analytics recordings, and configure camera access rights.

6.2.1 Enable Scheduled Recording



Scheduled recording can be enabled in the **Camera Addition Wizard**.

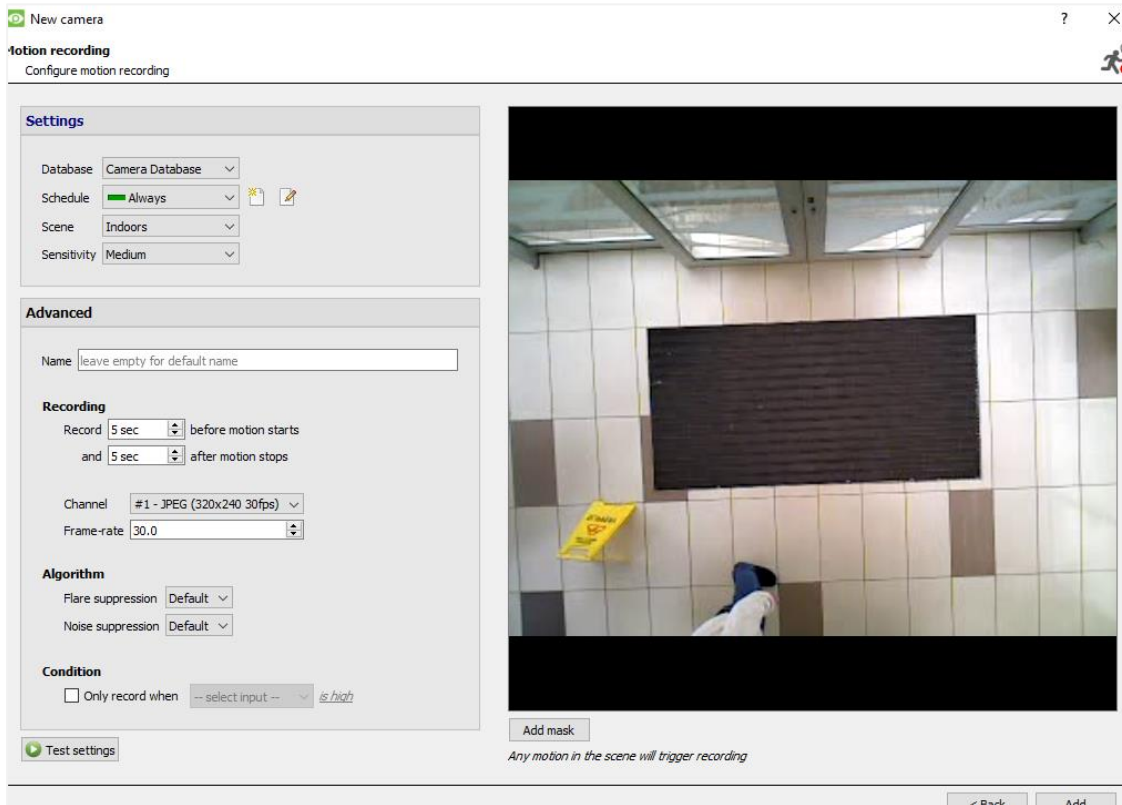
Here, set Database, Schedule, Channel, Framerate and Condition.

6.2.2 Enable Motion Recording

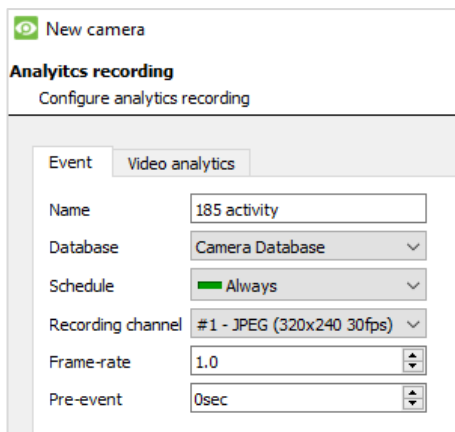
This can be accessed by visiting **Setup / Configure Servers / Expand the Server / Motion Recording**.

Motion recording can be enabled. Here, the user can set Database, Schedule, Scene, Sensitivity, Recording time before and after motion, Channel, Framerate, Flare Suppression, Noise Suppression, and Condition.

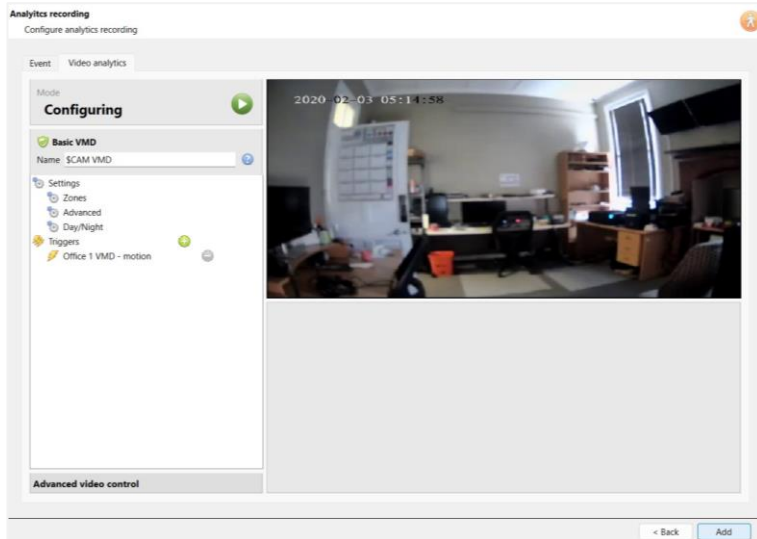
The user can also Add mask and Test settings.



6.2.3 Enable Analytics Recording



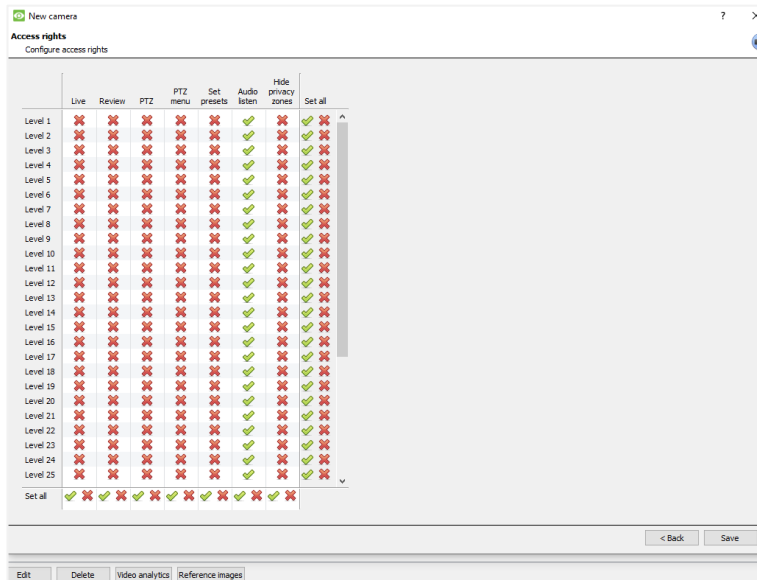
When configuring analytics, under the **Event** tab, set: Name, Database, Schedule, Recording channel, Frame-rate, and Pre-event.



When configuring analytics under the **Event tab**, set Zones, Advanced options, Day/Night settings, and Triggers.

Advanced video control may also be used.

6.2.4 Configure Access Rights

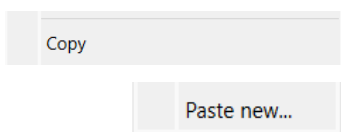


Click the **Configure access rights** button to configure relevant access rights.

6.3 Copy/Paste Cameras

CathexisVision offers an easy solution for adding more than one camera that operates on the same driver. 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. Click **Copy**.

→ The right-click anywhere in the Cameras Panel. Click **Paste new...**

6.3.1 Paste Mode: Sequential

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

Create new camera from clipboard
Select new camera settings

Select paste mode: Sequential

Number of cameras to add: 1

Start IP address: . . .

Total channels on encoder: 1

Start input: 1

Start IP Address: this determines the IP address of the first new camera being added. The IP addresses will be incremented from here. (Make sure no IP addresses in this range have been used.)

Total channels on encoder: this must be the full number of camera channels available on this encoder.

Start Input: this is the actual physical channel to which the first camera is added.

6.3.2 Paste Mode: Discovered

Create new camera from clipboard
Select new camera settings

Select paste mode: Discovered camera

Discovered cameras			Selected camera settings
Address	Model	Camera name	Camera name
<input checked="" type="checkbox"/>	Cameras		-- AUTO --
<input checked="" type="checkbox"/>	192.168.3.109	AXIS M3005	-- AUTO --
<input checked="" type="checkbox"/>	192.168.3.119	AXIS Q1615	-- AUTO --
<input checked="" type="checkbox"/>	192.168.3.121	AXIS P3224-LVE	-- AUTO --
<input checked="" type="checkbox"/>	192.168.3.122	AXIS 221	-- AUTO --
<input checked="" type="checkbox"/>	192.168.3.54	AXIS Q1635	-- AUTO --
<input checked="" type="checkbox"/>	192.168.3.55	AXIS M3115-LVE	-- AUTO --
<input checked="" type="checkbox"/>	192.168.3.88	AXIS Q6000-E	-- AUTO --

Camera name: -- AUTO --
Buttons: Set name, Auto-name

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

6.3.3 Copy/Paste Video Settings

Copy	If several cameras with the same drivers have already been selected, and the user wishes to transfer the video settings of each camera across, right-click. Select Copy .
Paste video settings	Then right-click on the camera to which the video settings will be added. Select Paste video settings .

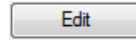
Note:

This step relates to the Video Feed settings. This will not add Video Motion Detection analytics.

Only copy onto cameras that have the same driver as the camera that has been copied.

6.4 Edit Existing Camera

Edit a camera that has already been added, by returning to **Setup Tab / Configure Servers / Cameras**.



Select a camera. Click **Edit**.

An interface with tabs containing the camera's details will appear. Edit as desired.

Note: If any changes are made to the setup of a camera that is currently multicasting, the streams must be restarted. This entails removing and reselecting the cameras in the Cameras tab, after the settings are saved.

6.4.1 Repeated Options

The camera setup options of **General**, **Connection**, **Video Feeds**, **I/O**, **Edge**, and **PTZ** are all dealt with above. The Pre-events, Access, and Privacy Zones tabs will be dealt with below.

Note: The **Wizard** goes through the process of 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.

6.4.2 Pre-Events Tab

Pre-events were set up under the **Activity Recording** section of the **Wizard**.

The number of pre-events cannot be defined here. However, 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.

6.4.3 Access Tab

Under the **Access** tab, set up 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 the 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 microphone.	
Hide privacy zones	This controls which Access Levels can hide privacy zones on the camera image.	
Set All		Selecting the tick will give this level access to all settings.
		Selecting the cross will give this level access to no settings.

6.4.3.1 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 level 1 access, 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 **CathesisVision Setup Manual** for more information.

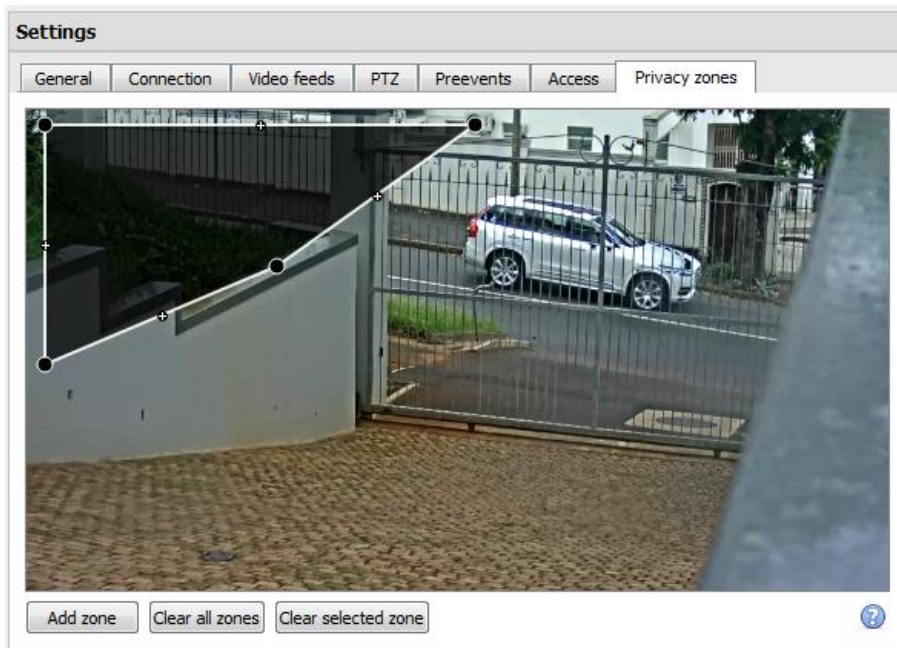
6.4.3.1 Audio Listen Access Right

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

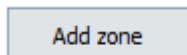
Audio Listen access right settings do apply to:	Audio Listen access right settings do not apply to:
Live viewing.	Independent audio channels.
Reviewing from the camera tab.	Archived video.
Reviewing from the database tab (both video and integration databases).	Connecting to a 2016.2 server using a 2015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

Note: When listening to reviewed audio, only a single audio channel will now play.

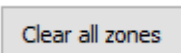
6.4.4 Privacy Zones



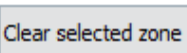
Using privacy zones, certain areas of the camera image can be blocked from view. They can be hidden (removed) by operators who have been granted access rights to do so. Otherwise, privacy zones can be set to blacken out the sensitive information on the camera image, and will reflect in snapshots, recordings,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



→ Click to add a new privacy zone to the camera image.



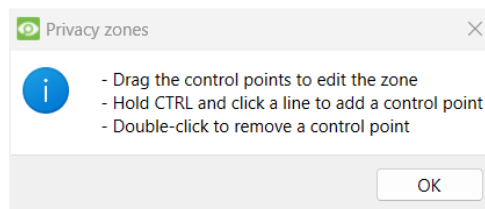
→ Click to clear all privacy zones from the camera image.



→ Click to clear only the selected zone from the camera image.



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



6.4.5 Camera Successfully Added

Server 1 - Cameras			
Camera	Address	Driver	
Back Parking - Hik Thermal	192.168.7.171 (input 2)	HikVision V2	
Back Parking - Vivotek (3)	192.168.7.20	Vivotek	
CATOBSERVER - Client Demo RM	192.168.34.41	catObserver V2	
Canoe - Dynamic Background (6)	202.0.0.1	Virtual	
Dahua Walk Way	192.168.7.173	Dahua	
Demo Room - Axis M3005 (7)	192.168.3.109	Axis	
Demo Room - Axis P3224 (8)	192.168.3.121	Axis	
Driveway - Axis 6000e(A) (9)	192.168.3.88	Axis	
Driveway - Axis 6000e(B) (10)	192.168.3.88 (input 2)	Axis	
Driveway - Axis 6000e(C) (11)	192.168.3.88 (input 3)	Axis	
Driveway - Axis 6000e(D) (12)	192.168.3.88 (input 4)	Axis	
Driveway - Dahua PTZ (33)	192.168.3.233	Dahua	

36 items

The camera has now been set up.

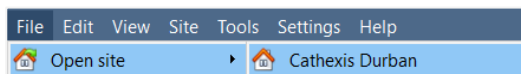
It will start recording as configured.

From this screen, another camera can be added, or the camera that has just been set up can be edited or deleted.

6.5 View Camera or Cameras

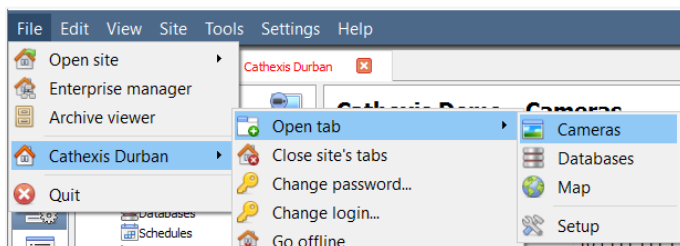
6.5.1 Open

6.5.1.1 Open Site



File / Open Site / Your_Site_Name.

6.5.1.2 Open the Cameras Tab

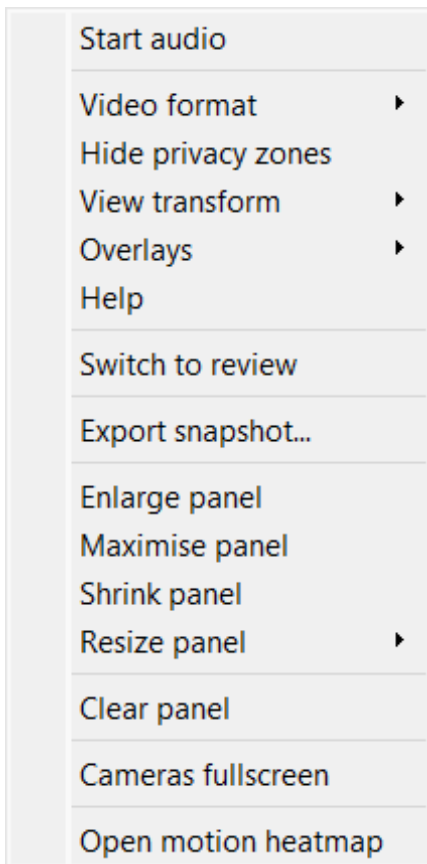


File / Your_Site_Name / Open Tab / Cameras.

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

6.5.2 Right-click on a Live Camera

Right-click on a live camera to change aspects of how the camera appears in a panel.



Start audio: If the camera supports audio, select to listen to live audio.

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

View/Hide privacy zones: Allows for a privacy zone configured on the camera to be enabled or disabled.

View transform: Allows transforming images for cameras with special lenses. (For example, 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: A pop-up help window on Digital Zoom, and PTZ Control within this panel will appear.

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

Export snapshot...: Opens a window to print snapshot, save to folder, copy to system clipboard, or copy to CathesisVision clipboard. The user can also choose include the camera name and time of snapshot in the overlays.

Enlarge panel: Resizes the panel to the next biggest size.

Maximise panel: Resizes the panel to the maximum size.

Shrink panel: Reduces the size of the camera panel.

Resize panel: Gives more resizing options.

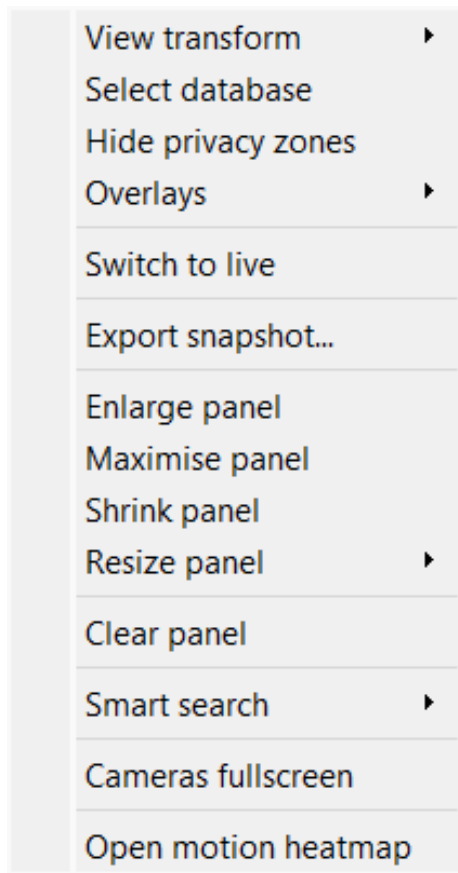
Clear panel: Removes the camera or cameras from the currently selected panel or panels.

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

Open motion heatmap: Opens motion heatmap.

6.5.3 Right-click on a Camera in Review

To see the review context menu, right-click the mouse on the camera panel of choice.



View transform: Allows transforming images for cameras with special lenses. (For example, 360-degree cameras.)

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

View/Hide privacy zones: Allows for a privacy zone configured on the camera to be enabled or disabled.

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

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

Export snapshot: Opens a window to print snapshot, save to folder, copy to system clipboard, or copy to CathesisVision clipboard. The user can also choose to include the camera name and time of snapshot in the overlays.

Enlarge panel: Resizes the panel to the next biggest size.

Maximise panel: Resizes the panel to the maximum size.

Shrink panel: Reduces the size of the camera panel.

Resize panel: Gives more resizing options.

Clear panel: Removes the camera or cameras from the currently selected panel or panels.

Smart search: Use the 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.

Open motion heatmap: Opens motion heatmap.

7. Events

Servers		Roadshow Demo MSTR - Events				
		Name	Triggers	Actions	Databases	Schedule
<ul style="list-style-type: none"> ✓ Roadshow Demo MSTR (MASTER) <ul style="list-style-type: none"> Cameras Video analytics Databases Schedules Network I/O Scheduled recordings Motion recordings Scheduled archives Events 		Lockdown Section A Event	Trigger template (⚙️)	Call AMG (alarm previews), Record trigger cameras	camDB	Always
		Lockdown Section B Event	Trigger template (⚙️)	Record trigger cameras, Call AMG (alarm previews)	camDB	Always
		Lockdown Section C Event	Trigger template (⚙️)	Record trigger cameras, Call AMG (alarm previews)	camDB	Always

Events are located under **Site / Open Tab / Setup / Configure Servers / Events**

When creating Video Motion Detection (VMD), it will immediately be added as an event. This VMD setup can also be used in other events.

From the **Events panel**, the user can edit current events, create new events, or delete events that are no longer desired.

Double-click an event or select an event and then 'Edit' to adjust the **Schedule, Resources, Triggers**, and **Actions** as required.

- A trigger sets off an event. There can be more than one trigger per event. (For example, VMD from two cameras will cause the same action.)
- Actions are defined as the actions taken by the system as a result of the trigger.

Note: the “Resources” section refers to the system’s 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, follow the process that is native to the operating system on which CathesisVision was installed.

9. Conclusion

Note: This is a quick guide to the CathesisVision server software. For more information on CathesisVision, consult the *CathesisVision Setup Manual* (<http://cathesisvideo.com/>).

For technical support, contact support@cathesisvideo.com