



# SAM-3204 Installation and User Manual



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# 1 Introduction

Thank you for purchasing the SAM-3204 encoder. This manual will detail the installation, configuration, and operation of the SAM-3204.<sup>1</sup>



## a. Software Compatibility

The SAM-3204 is compatible with Cathexis 2016.4, and 2017.2 and later.

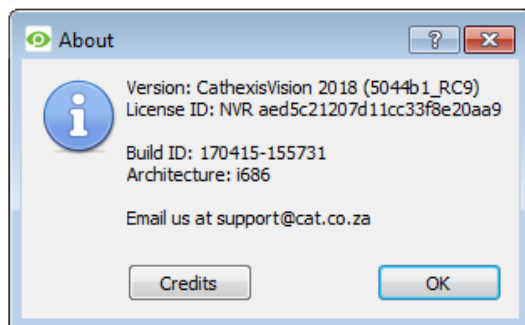
**Note:**

1. Audio supported only in CathexisVision 2018.2.
2. SAM-3204 driver required in CathexisVision.

Open the CathexisVision About window to check your software version. In CathexisVision click on **Help** → **About**.

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<sup>1</sup> 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 Product Warranty

- (a) The Supplier warrants to the Customer that the Equipment marketed by the Supplier is believed to be free from defects of workmanship and materials and the Supplier undertakes, subject to paragraphs (c) and (d) below, replace or, at its option, to repair the Equipment purchased hereunder and detailed in the a foregoing Schedule (other than consumable items) found to be defective within twelve (12) months in respect of keyboards and twenty-four (24) months in respect of all other equipment, of the date of original delivery in accordance with Clause 4 above, where such defects are a result of faulty materials or workmanship.
- (b) Each claim of the Customer under this warranty shall be sent in writing to the Supplier specifying the type of Equipment and nature of the defect. Upon receipt of such written notice, the Supplier or its agent or representative shall have the option of testing or inspecting the Equipment at its location or of having the Equipment returned to the Supplier or such other address as may be notified to the Customer at the Customer's expense. Replacement parts, items or Equipment shall be sent by the Supplier to the Customer ordinary freight pre-paid, subject always to (c) and (d) below.
- (c) In the event of any claim presented under warranty being found on investigation by the Supplier either to be outside the scope or duration of this warranty or the fault being unconfirmed, then the costs of such investigation and repair shall be borne by the Customer.
- (d) The Supplier shall not be liable at any time for damage or defects in the Equipment or parts caused by improper use, abuse, mismanagement or by using the Equipment outside the specifications detailed in the manuals and documentation relating to the Equipment or outside the specific application of the Equipment.
- (e) This warranty shall not be assigned without the prior written consent of the Supplier.
- (f) Except as otherwise provided in this Clause, the Supplier makes no other representations or warranties and expressly excludes the same whether implied, statutory or otherwise especially as to quality or fitness of the Equipment for any particular purpose.



### 3 Warnings

Don't install the encoder in direct sunlight



Do not install the product in a damp area, or where it may be exposed to flammable liquids and/or gas



Do not install the product in a location where it may be exposed to extreme heat or cold



Do not install the product where it may be exposed to rain, water and/or radioactivity





## 4 Product Information

The SAM-3xxx products integrate analogue video cameras into security systems by means of an Ethernet network. In applications where an Ethernet network already exists, this is a significant cost-saver as it does away with the requirement for cabling. With the Power over Ethernet option there is also no need for external power feeds to the encoders.

Conveniently, there is no hardware installation or additional IP camera licenses required on the CathexisVision VMS NVR (Network Video Recorder) – each of the SAM-3 inputs encode an analogue camera feed, converting it to a high quality digital format, which is transmitted as a digital feed to the CathexisVision VMS NVR over the network.

The encoders integrate seamlessly into the CathexisVision user interface so that each appears as simply another IP camera on the site.

The compression ratio and resolution can be scaled independently for each encoder, providing optimum image quality under all conditions. This also enables flexible customisation of encoders to optimise the network bandwidth.

## 5 Features

- POE Class 3 Power Supply.
- 4x Video Inputs.
- Optimized H.264 video compression algorithm to facilitate transmission of High Quality video over low network bandwidth.
- Built in monitoring function.
- Supports PAL/NTSC.
- Provides RS485 serial port.
- 4x Audio input (Line In/MIC In).\*
- 1x Audio Output.\*
- Dual streaming.
- Fully integrated within the CathexisVision VMS (Encoder software included with all CathexisVision software installations).
- Hardware watchdog and Built-in-tests.
- Isolated inputs and relay output.

\* **Note:** Audio supported only in CathexisVision 2018.2.

## 6 Performance

The performance test results for the SAM-3204 encoder are presented in the tables below.<sup>2</sup>

<b>4 channels Active</b>	Configuration Parameters		Frame Rate Achieved PAL / NTSC
<b>Configuration 1:</b>	Primary Stream	4CIF; 1Mbps; 25fps	24 / 28
	Secondary Stream	N/A	N/A
<b>Configuration 2:</b>	Primary Stream	4CIF; 1Mbps; 25fps	22 / 26
	Secondary Stream	CIF; 100Kbps; 5fps	5 / 5

<b>3 Channels Active*</b>	Configuration Parameters		Frame Rate Achieved PAL/NTSC
<b>Configuration 1:</b>	Primary Stream	4CIF; 1Mbps; 25fps	25 / 30
	Secondary Stream	N/A	N/A
<b>Configuration 2:</b>	Primary Stream	4CIF; 1Mbps; 25fps	25 / 30
	Secondary Stream	CIF; 100Kbps; 5fps	5

<sup>2</sup> Performance tests were conducted under ideal conditions. Actual results may vary depending on usage environment.



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\*Note: The camera must be physically unplugged from the encoder.

## 7 Housing

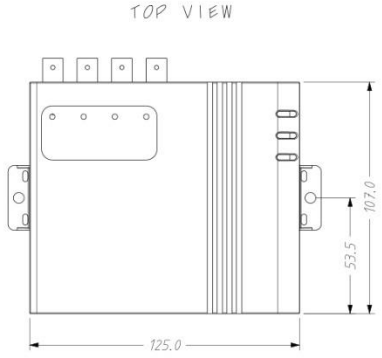
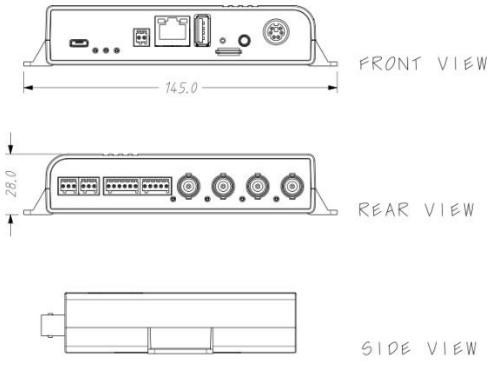
### a. Front View



### b. Rear View



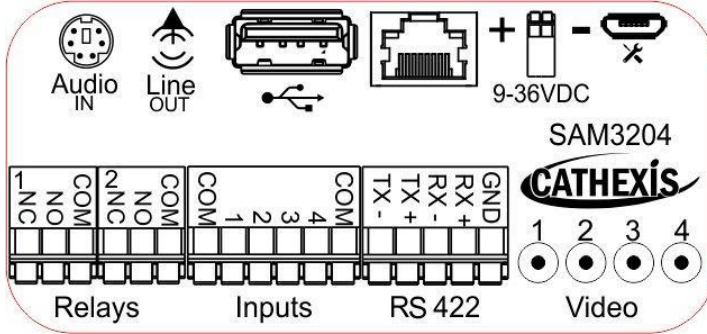
# 8 Encoder dimensions



## 9 Connectors

### a. Connections Sticker

This sticker appears on top of the unit.



### b. I/O relays

R-NO (normally open)	1
R-NC (normally closed)	2
R-COMM (common)	3
Input GND	4
Input GND	5
Input 1	6

### c. RS-422 Serial port

- TXD	1
+TXD	2
-RXD	3
+RXD	4

### d. Audio In/Out\*

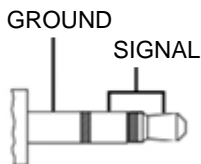
\* **Note:** Audio supported only in CathexisVision 2018.2.

#### Cable Adaptor



Audio cable adaptor supplied with unit.

#### Audio In/Out



Use only stereo jack.

### e. Ethernet

100BaseT RJ45 PoE Ethernet port.



## 10 Change IP Address

IP address can be changed via the IP utility. The utility is automatically included when the CathexisVision software package is installed.

### a. Run IP Utility

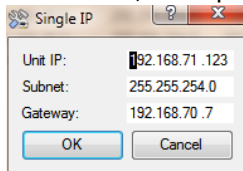


The utility can be run from any of these interfaces:

Ubuntu	CatEncoderSetup icon on Desktop <code>/usr/nvr/nvr_encodersetup.</code>
Windows	Windows Start Menu Start → Programs → Cathexis → CatEncoderSetup
Windows Client	<code>C:\Program Files\CathexisVision Client\cat_encodersetup.exe</code>
Windows Server	<code>C:\Program Files\CathexisVision Server\nvr_encodersetup.exe</code>

## b. Set IP

1. Right-click the listed encoder or click on the File menu, and select “Set IP”, to display the “Single IP” window:



2. Change the “Unit IP” to the new IP address.
3. If necessary, also modify the “Subnet” and “Gateway” fields.
4. Click “OK”.
5. The list refreshes itself approximately every 2 seconds – once refreshed, check that the encoder is now displaying the new details.

### **Note:**

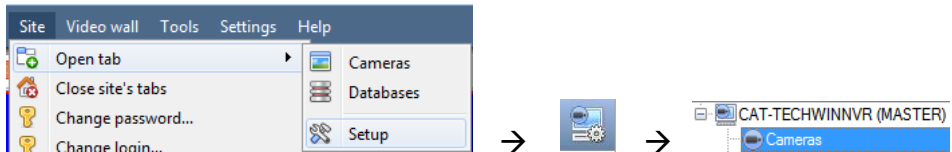
The Cathexis IP Encoder Utility requires Administrator access to function correctly. For most systems, the utility will automatically elevate its access rights, but on some Windows installations, the user may be required to select the 'Run as Administrator' option when invoking the utility. If encoders do not appear in the utility, first try Run as Administrator before contacting support.

## 11 Software Installation

Software addition of the CatEncoder will take place in the Setup Tab of CathesisVision. Open CathesisVision and follow the instructions below.

### a. Navigate to the Cameras Section in Setup

Setup Tab → Configure Servers → Cameras.



### b. Add Encoder

In the cameras window click on  to start the addition wizard.

Select the Cathesis SAM-3204 driver from the drop-down menu.

Enter the **IP address** of the encoder. See the section above on setting IP address.

Enter Video Input.

Enter **Port** number of encoder.

Enter Login and Password details.

Click **Next**.

**Note:** SAM-3204 driver must be selected. Other SAM drivers will support the encoder.

There will by default be two streams already configured, one for recording, and one with a lower resolution and bit rate for analytics. If you wish to edit or remove one of these streams simply select the stream of your choice and click

or  respectively.

### Enable Recording/Video Analytics

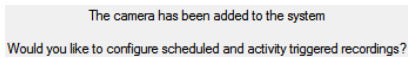
Right-click on the desired feed and select the relevant option to enable.

## c. Situational Settings

As you click through the wizard you will be asked to setup the Encoder's I/O settings, Serial port settings, and decide whether or not you want to enable PTZ. These all depend on the context of your installation, and it is up to you to decide whether or not you want them enabled/disabled.

## d. Schedules and Activity Triggered Recording

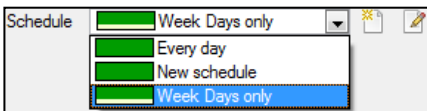
After the PTZ setting you will be given the following prompt:



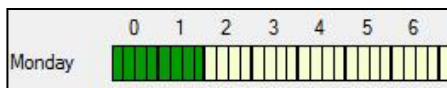
If you would like to create a recording schedule, or setup VMD select Yes. If you want to do neither, simply select No.

### Schedules

- Set Up a Schedule



Select your schedule from the drop-down menu. Click to create a new schedule. Click to edit existing schedule.



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.

Click Next to move onto activity triggered recording and video analytics.

## Activity Recording

- **Event Tab**

Add activity triggered recordings

Event **Video analytics**

Name

Database

Schedule

Recording channel

Frame-rate

Record  pre-events at

The recording option allows you to setup the recording settings.

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

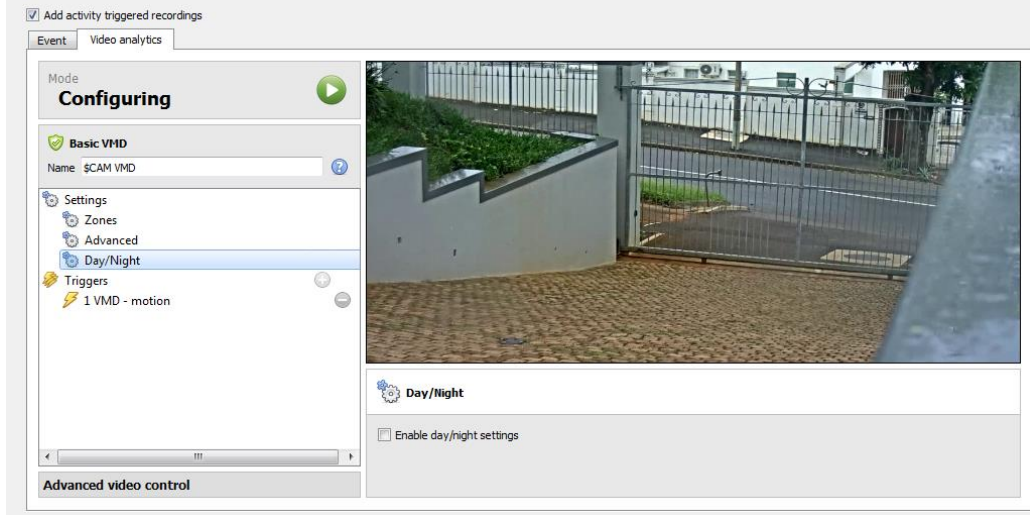
**Recording channel** defines which video channel will be recorded.

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

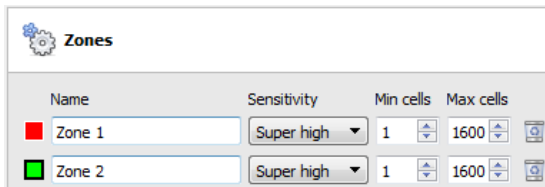
**Pre-events** define a time that will be buffered, and recorded, from before the initial trigger.

- *Video Analytics Tab*

The analytics option available here is the Basic Video Motion Detection algorithm.

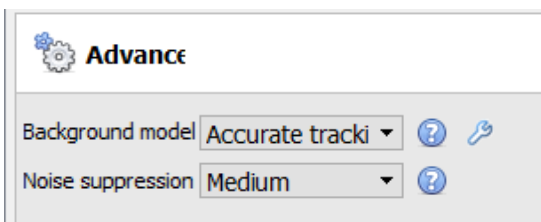


## Zones



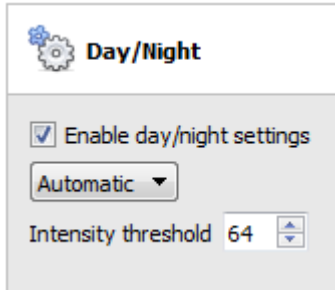
Select **Zones** from the left-hand panel and add/delete zones from the context area beneath the camera image.

## Advanced



Select **Advanced** from the left-hand panel and configure settings in the context area beneath the camera image.

## Day/Night



Select **Day/Night** from the left-hand panel and configure settings in the context area beneath the camera image.

A full description of VMD setup is beyond the scope of this setup manual. For more information consult the main CathexisVision Setup Manual.



## 12 Conclusion

Please remember that this appnote was written to deal with this specific product. For more details on the regular setup/operation of the CathesisVision software, please consult either the Setup Manual or Operator's Manual.

For any further questions, contact support.

[www.cathesis.co.za](http://www.cathesis.co.za)

[support@cathesis.co.za](mailto:support@cathesis.co.za)