SASCO Natal Weighbridge

Integration App-note

Contents

1. Introduction

This document details the integration of the SASCO Natal Weighbridge with CathexisVision software. The SASCO Natal Weighbridge integration links weighbridge footage with weight measures as trucks enter or exit sites.

1.1 Requirements

1.1.1 Software requirements

- CathexisVision 2020.4 and later
- Win 10-64bit and later
- Win Server 2008 R2 and later.
- Minimum 4GB of RAM required.

1.1.2 Model

This software integration was developed and tested on SW Code: 59400002 (1.1.29.0).

1.1.3 License requirements

The CathexisVision SASCO Natal Weighbridge software integration license requirements are as follows:

License Code	License Description
CSWB-1001	SASCO Natal Weighbridge
CSWB-2000	SASCO Natal Weighbridge device
CSWB-3000	SASCO Natal Weighbridge bundle

Note: these licenses are device-specific.

A NOTE ON CAMERA CHANNELS

The CathexisVision software packages have **limits on camera channels**. A multi-head 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.

1.2 Integration Components

All CathexisVision integrations have two component levels: **Device** and **Object**.

Device	The device is CathexisVision software's interface, which handles all the interaction between CathexisVision and the integrated hardware. When an integration is added to the CathexisVision system, a device is added. The messages received from the device are called Device Events.
Objects	Objects are the individual pieces of hardware that comprise the integration. There can be multiple "object types" under the objects group. The object for this integration is the physical weighbridge unit. Multiple weighbridges can be added.

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*

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2. SASCO Weighbridge Setup

The weighbridge connection from the CathexisVision software is via an IP address, and a TCP connection to a TCP port to the device. The scale comes with a default IP address and a default port (TCP port 6001). The IP address can be changed on the scale, and the port can also be changed. Once the connection has been made to the weighbridge, the weight data is continually returned to the NVR unit in a character-based string.

2.1 Configuring the IP address on the weighbridge unit
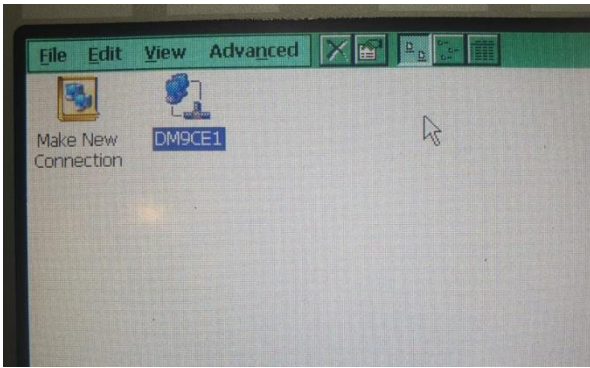

1. Switch on the unit.
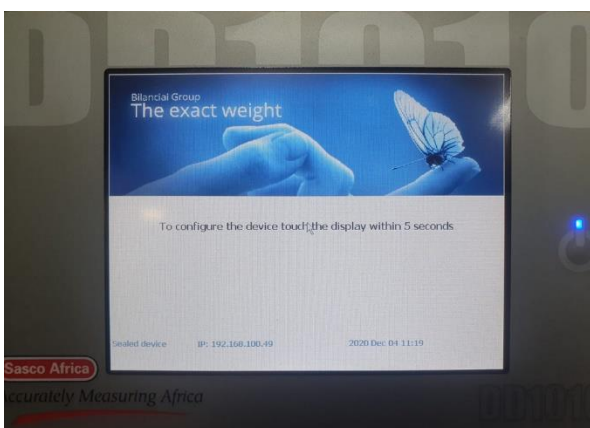
2. To enter the system setup, touch the screen at start-up within five seconds.
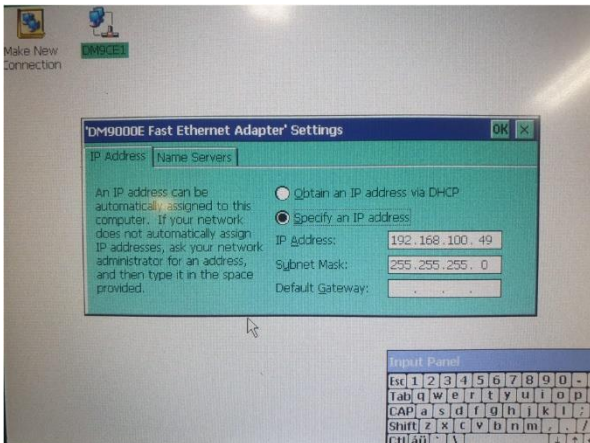
Note: The system menu will request a setup password. Please obtain this password from a SASCO Weighbridge installer/agent.
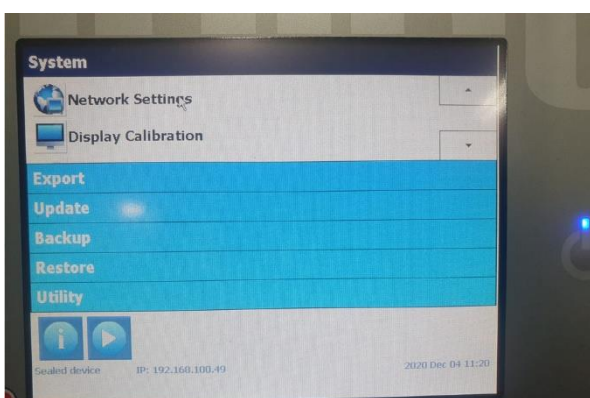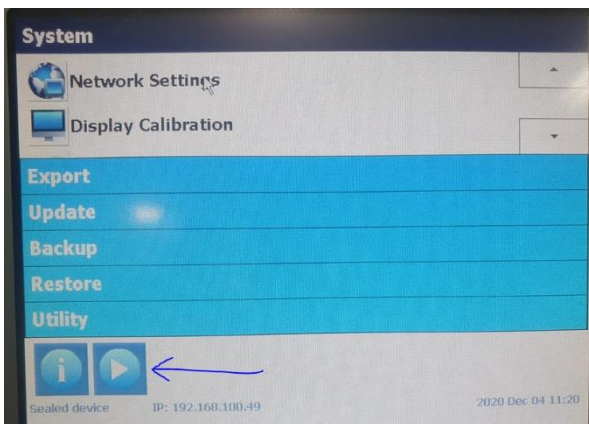

3. Select the System setup. Then select **Network Settings**.
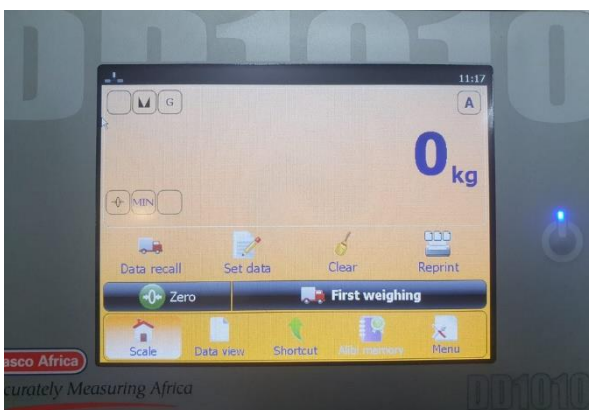
4.   Select the DM9CE1 or similar network interface.

5.   Change the IP and select **OK** to save the changes.

6.   The system will either ask the user to reboot, or the user can continue the loading process by selecting to continue (by clicking the **play** icon) below.

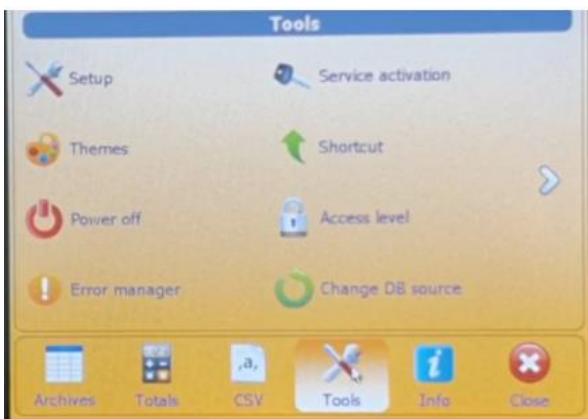7.   The Weighbridge interface will be loaded.

2.2 Changing the TCP port on the Weighbridge (Default TCP port 6001)
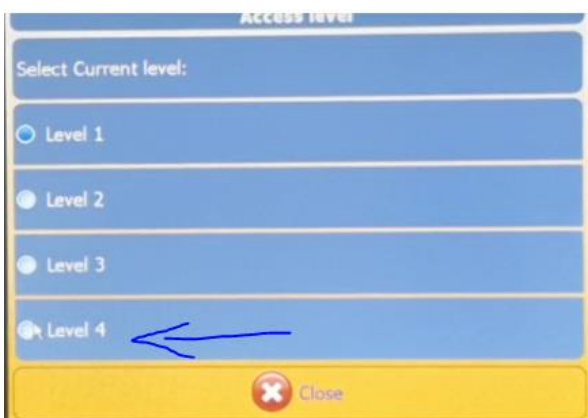

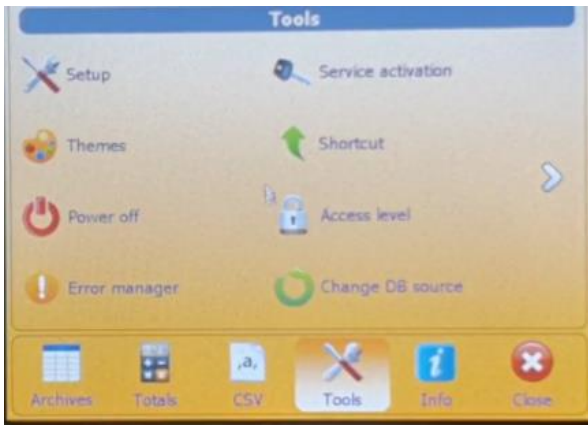1. Select the **Menu** option.

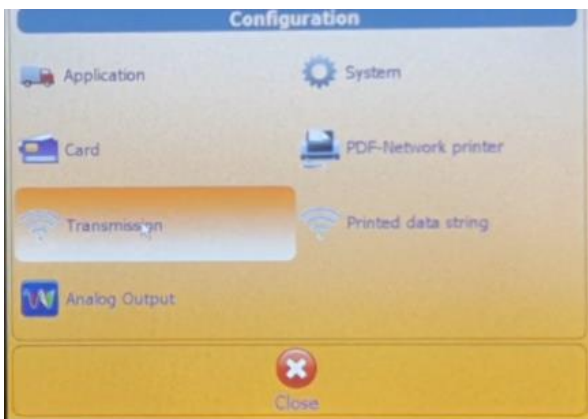2. Navigate to the **Tools** menu.

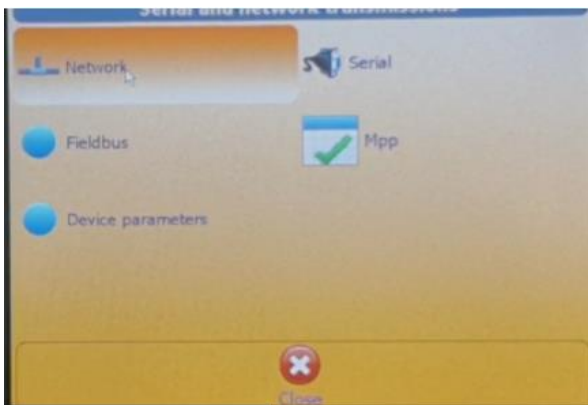3. Select the **Access level** option.

4. Change the access level to **Level 4**, which will give the user permission to enter the setup.

5. Select the **Setup** menu option.

6. Select **Transmission**.

7. Select **Network** setup.

8. Edit the port number and save the changes.

3. Device Addition and Configuration

This section will detail the procedure for setting up the two systems to effectively communicate with each other.

## 3.1 Devices Section (Add a New Device in CathexisVision)

Integrations are added on a server-by-server basis. They are managed in the Integration Devices panel, under the Setup Tab of the servers to which they are added.

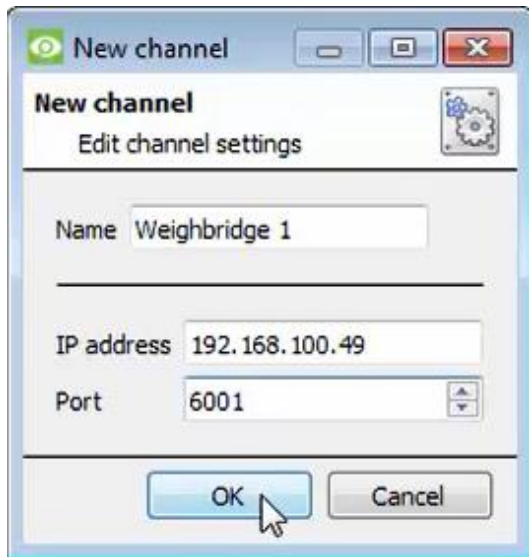To get to the Integration Panel, follow this path:
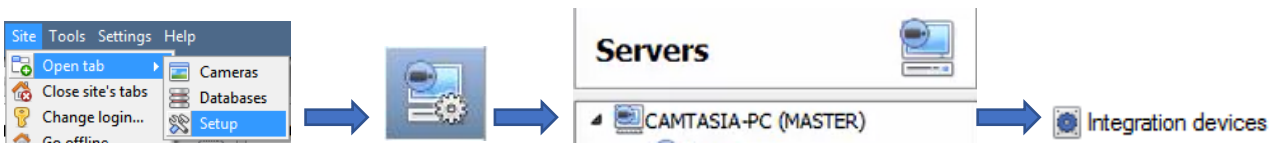
3.1.1 Device Addition

1. Once in the Integration Devices panel, click on [New device]. This will open the addition dialogue.
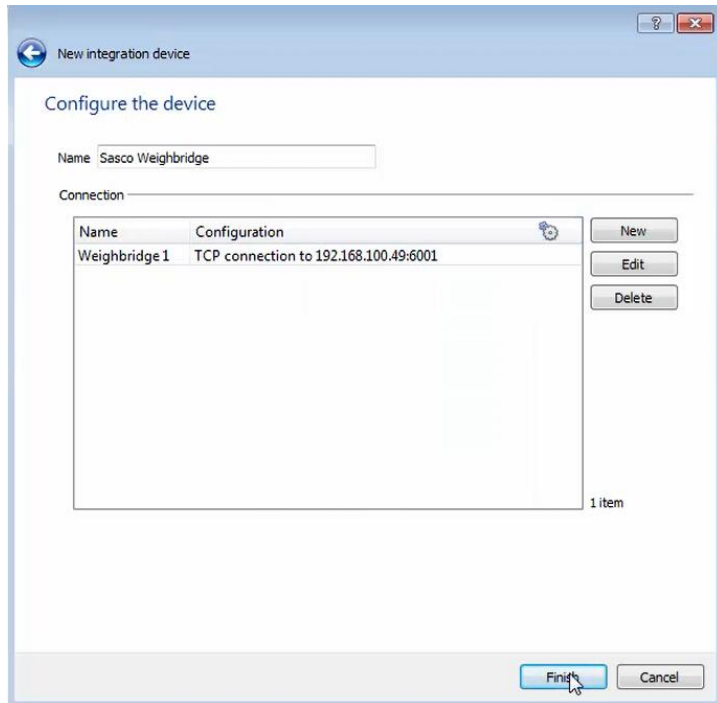2. Select the **SASCO Natal Weighbridge** driver from the list.
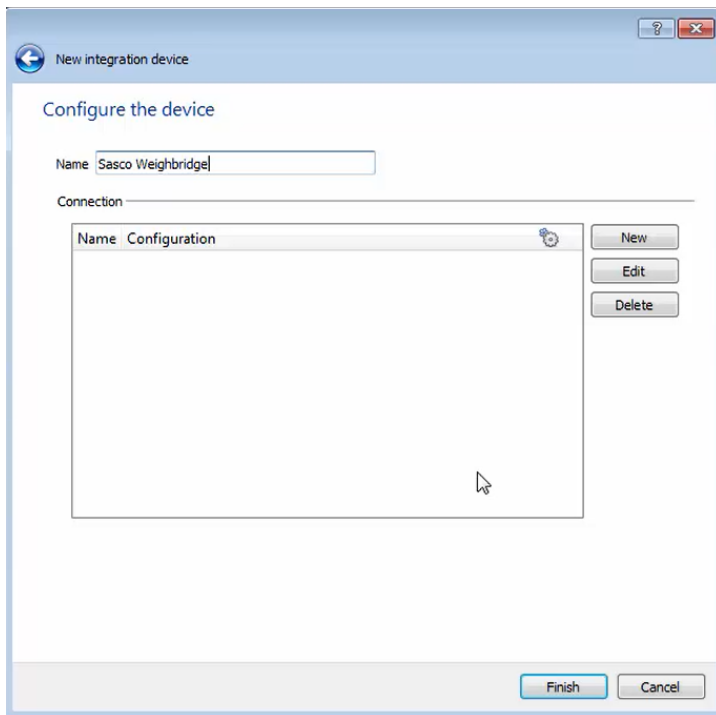
3. Give the device a descriptive **name**.

4. Click **New** to add the weighbridge.

5. Enter the **IP address** of the device.

6. Enter the **port number**.

7. Click **OK** to save the settings and return to the addition dialogue.

Note: The example shows the default IP address and Port, but these can be changed on the scale.
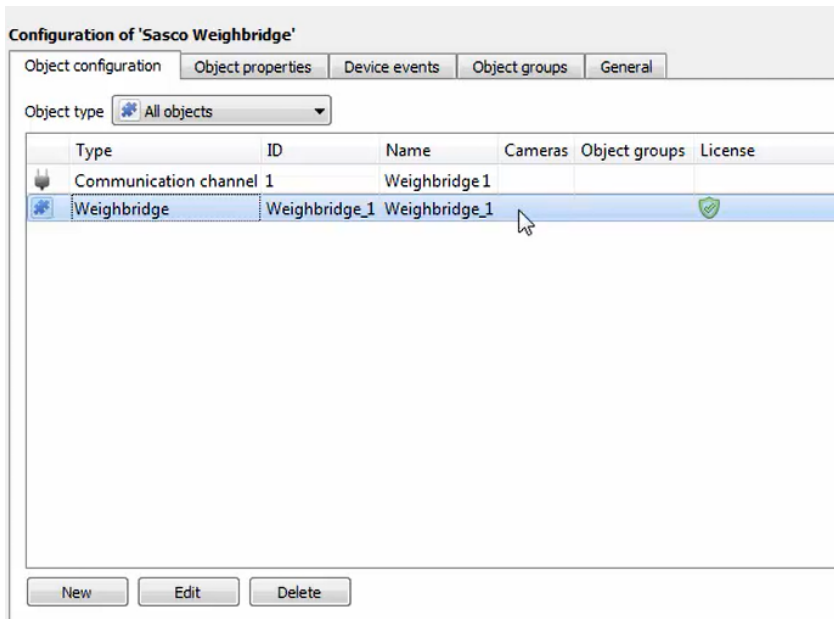

8. The device will now be displayed. Click **Finish**.

3.2 Configuration Section (Tabs)

The configuration section is divided up into several tabs. These tabs are: Object configuration, Object properties, Device events, Object groups, and General.
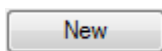
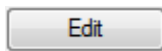## 3.2.1 Object Configuration Tab

In the object configuration tab, the **individual objects** that comprise the integration can be viewed – in this example, the individually added weighbridges.

Select the **Object type** dropdown to view the objects that comprise the integration. Select one of the object types from the menu to view only objects of that type in the list area.

3.2.1.1 Object Configuration Buttons

 To add a new object, click **New**.

 To edit an existing object, click **Edit**.

 To delete an existing object from the CathexisVision configuration, click **Delete**.
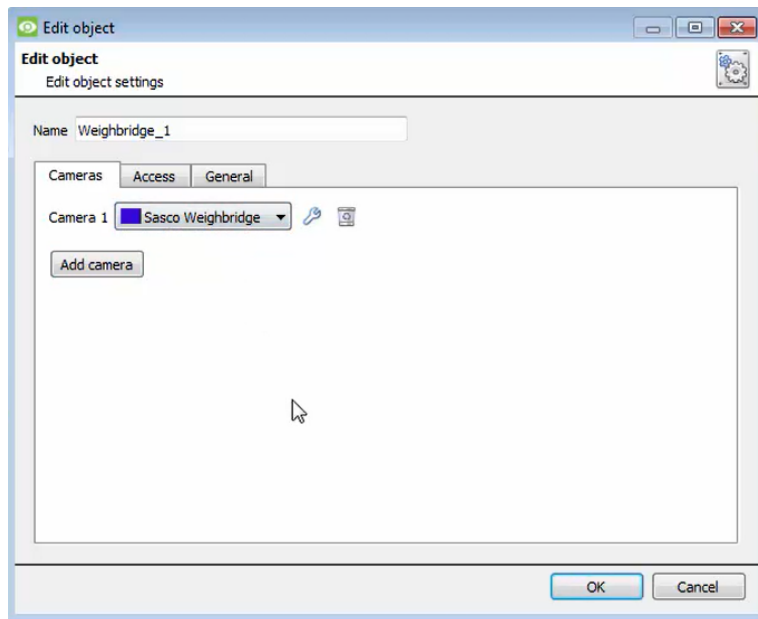
3.2.1.2 Right-click options

Right-clicking on an object will display a list of options.

Clicking on **Properties** will open the **Edit object** window (see below).

3.2.1.3 Link the weighbridge to a camera

Adding a camera to an object will mean that whenever there is an event on that object, the recording from that camera will be related to the time and date of the object event, in the Integration database.

Double-click the object to open the **Edit Object** window.

To add a camera, click Add camera , and select the relevant camera from the drop-down menu.
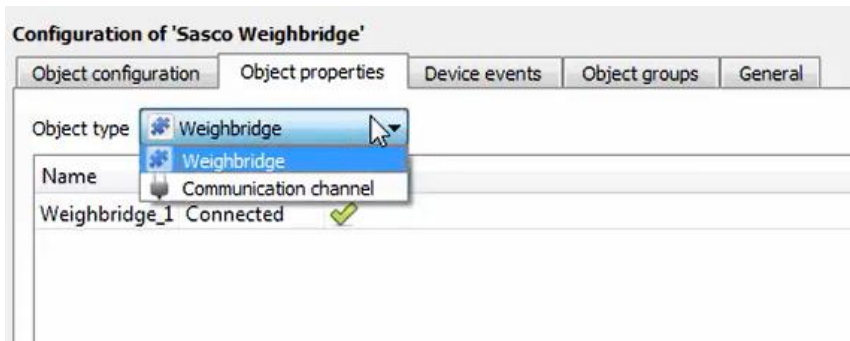
Click **OK**.
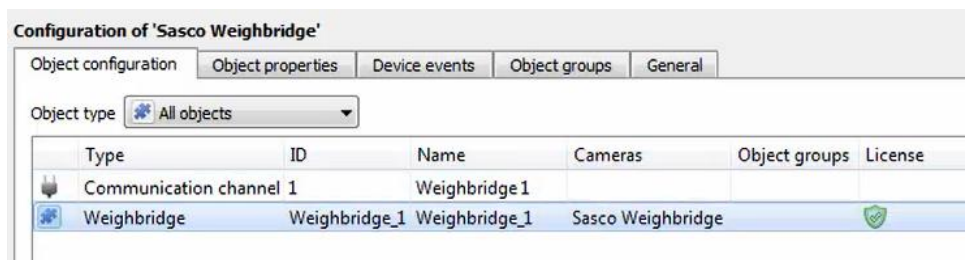
The camera will now appear in the **Cameras** column.

3.2.1.4 Set Access Rights

The **Access** tab allows users to set access rights. To edit the default object access rights, click **Configure default access**.
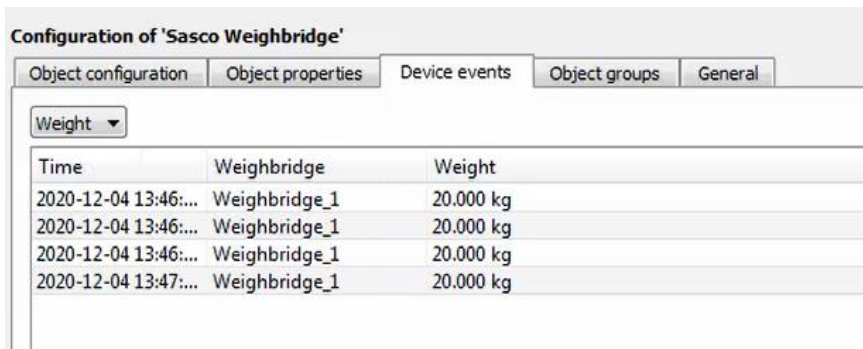
3.2.2 Object Properties Tab

The **Object properties** tab displays the objects' properties, sorted by type.

For the Weighbridge integration, the objects are sorted by **Weighbridge** and **Communication channel**.
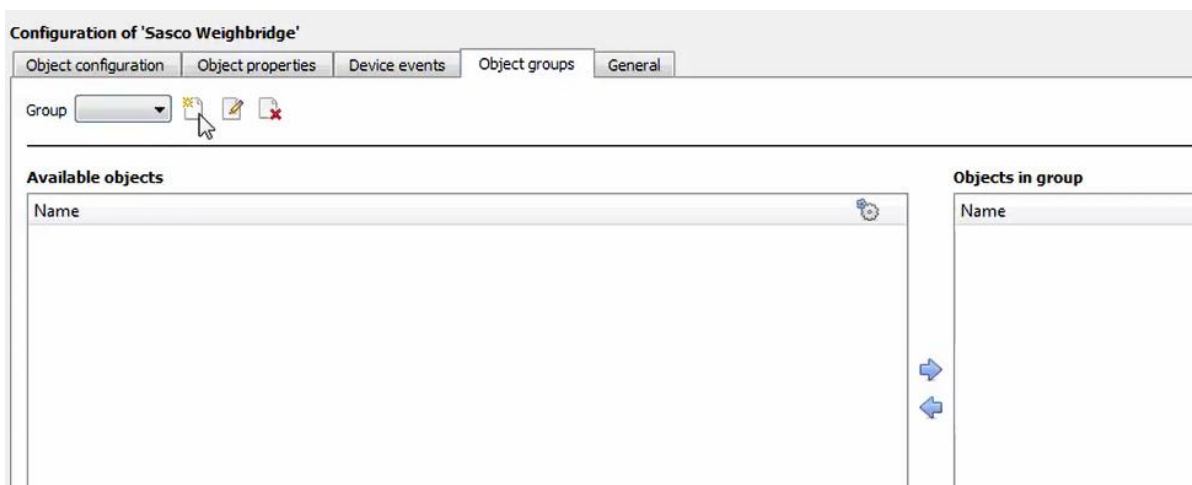
3.2.3 Device Events Tab

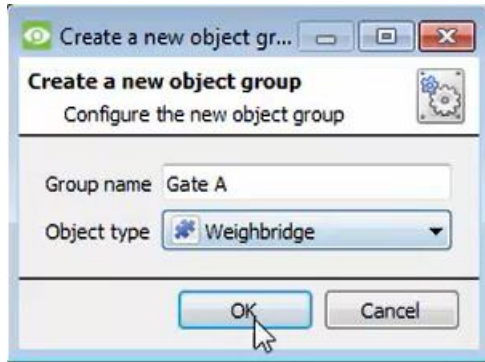This tab lists all events sent from the device.

In this integration, the events are the weight measurements coming in to the device.

3.2.4 Groups Tab

Groups of the same type of object can be created. **Tip**: Events can be triggered by an object group.
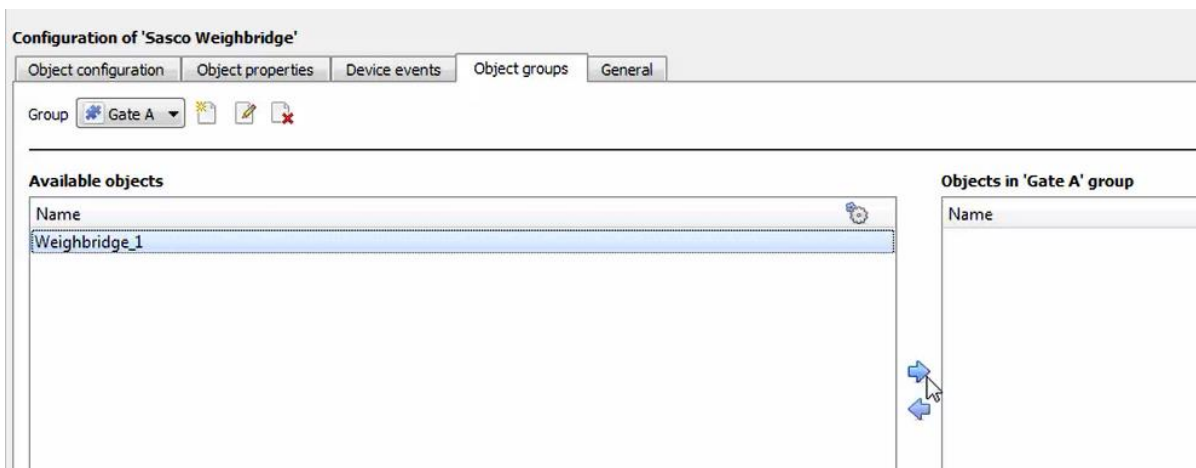
3.2.4.1 Create a Group

To create/edit an object group, click on ⬚/✎. (**Note**: Once a group has been created, the object type of the group cannot be edited.)
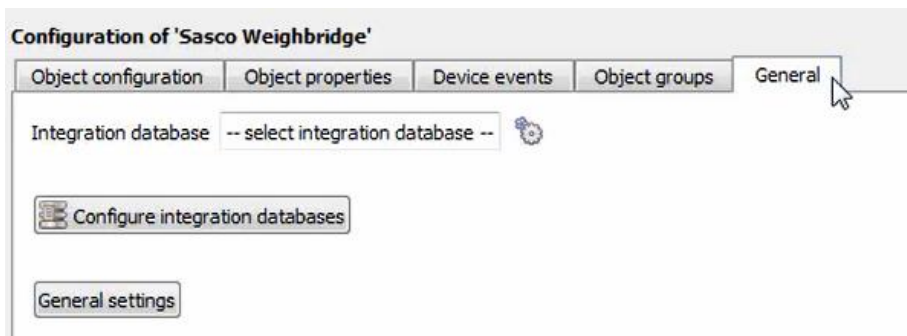
Give the group a descriptive **Group name.**

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

A list of available objects will be displayed. To add or remove these objects to the group, select them and click on ➡/⬅. **Note**: multiple objects may be selected at a time.
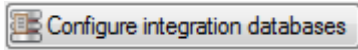
3.2.5 General Tab

In the **General tab**, an **integration database** can be created.

Note: Each integrated device needs to be attached to an Integration database. Without setting up/adding a database here, the integration will not function properly within the CathexisVision system.

3.2.5.1 Configure a new metadatabase

Configure integration databases   To create a new database, click on this button.

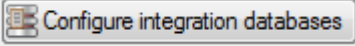### 3.2.5.1.1 Initialise the Integration Database

The first time an integration database is added, this feature will need to be initialised. This will add a broad database, into which all integrated devices' databases will be added.

Select the unit the database will be added to from the list on the left. Click **Initialise integration database**.
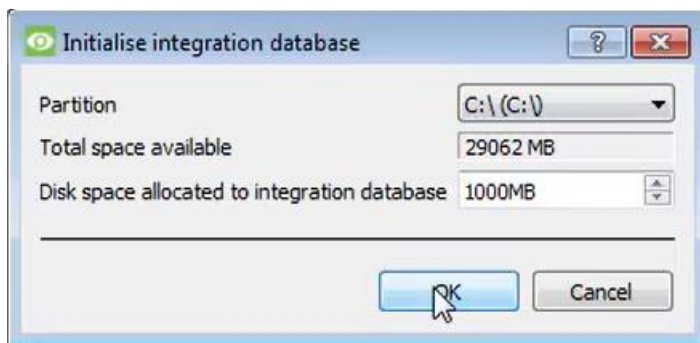
The user needs to choose the partition the database will be formed on, and select how much space will be allocated to it.

3.2.5.1.2 Add a New Devices Database

After initialisation, the database can be added to the integration. In the Integration Devices panel, select **General**. Click **Configure integration databases**. The **Integration database setup** window will appear.
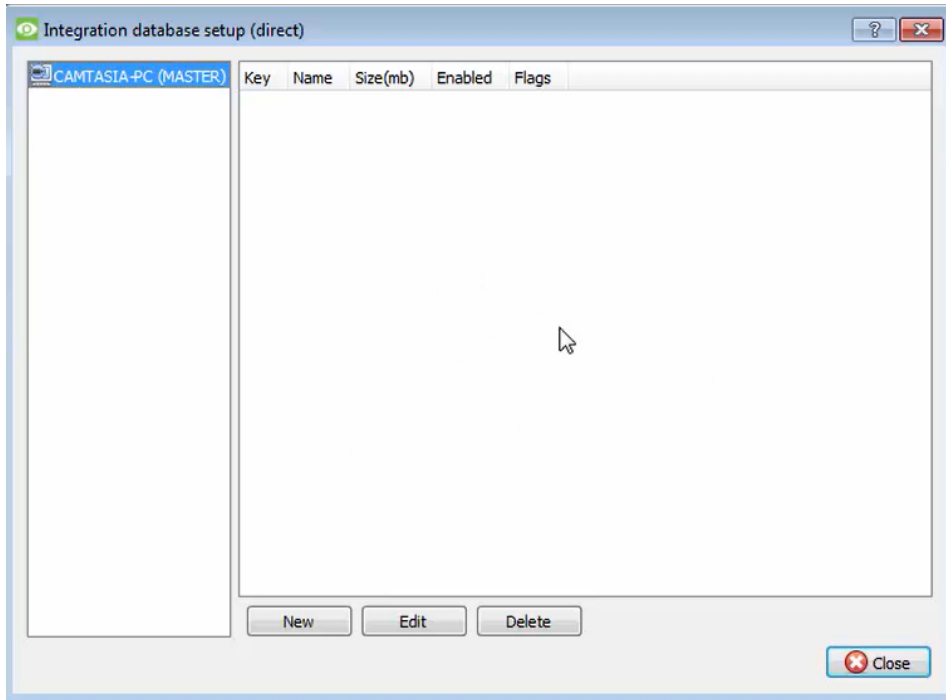
Click on the

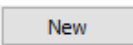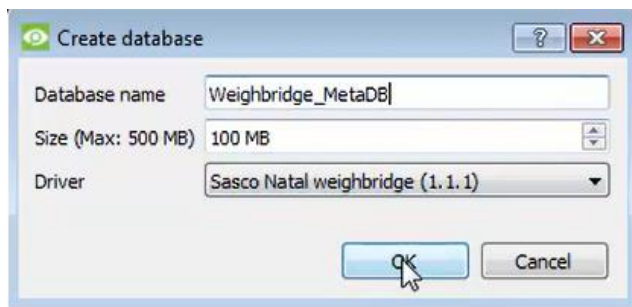 button at the bottom of the **Integration database setup** window.

Give the Integration database a descriptive **Name**.

Allocate a **Size** to the new device database.

Choose the device **Driver.**

Click **OK** to create the database.

3.2.5.2 Select the weighbridge integration database
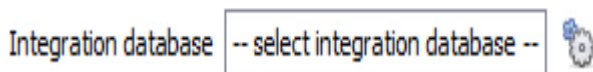
In the **General** tab, select the gear icon:
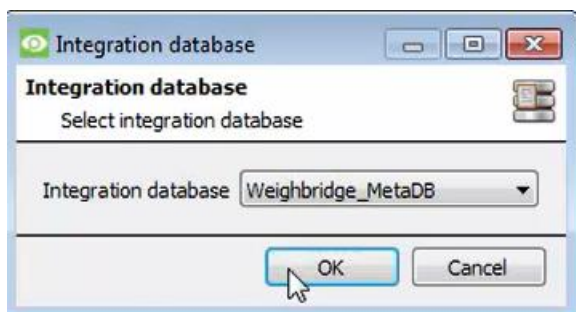
In the dialogue that appears, the user can select the Weighbridge integration database.

3.2.5.3 Configure Overlays

To configure overlays, click **General Settings** in the **General tab**. The General settings window will display.

The user can select the duration of the overlay.

4. Camera Tab Overlay Setup

Once all the relevant settings have been configured, the overlays can be pulled through over the appropriate camera feed.

Note: Cameras must have already been added to objects, and overlays must have already been configured.

4.1 Video Feed Options Panel

To bring up the overlay, click the arrow to the left of the screen to pop out the Video feed options panel. The Video feed options panel will present options specific to the settings configured for that video feed.

4.1.1 Select the Overlay

Clicking this icon will bring up the overlay options for this video feed.

Select the overlay and it will appear over the video feed.

5. Database

The database tab allows for navigation of the databased entries. It has built-in filters, and the ability to navigate by timestamp. If a database entry has an associated recording, the user can launch this recording from within the database tab.

5.1 Navigate to the Database
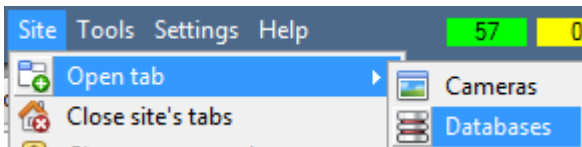
Follow the path shown to the left to view the information stored in the integration database.
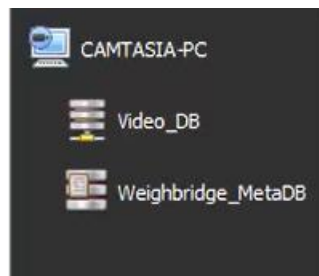
Once in the databases tab, select the relevant integration database. The databases are ordered under the NVRs that they are attached to.
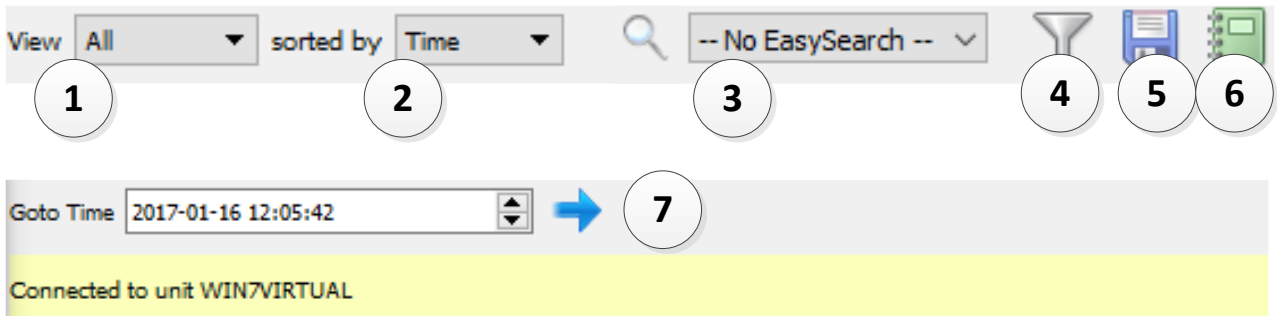

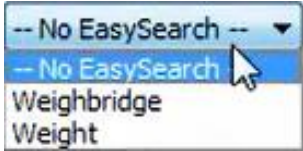Most integrations will have a different database presentation and unique filters, due to the different parameters sent to CathexisVision by the integrated device.

On the left is an example of the weighbridge database.

5.2 Database Interface

① **View**	Users may change the way that the database is presented. The **Weighbridge** database only has the option to view Events. 	
② **Sorted By**	Events can be sorted based on the parameter of **Time**.	
③ **Easy Search**	The EasySearch option allows users to quickly search the database within one of the following options: 	There are options to filter **Weight** according to certain parameters.
④ **Filter**	Filter offers an advanced manner of sorting information in the Integration Database table. The following options are available within the Filters dialogue: 1. To **enable** filters check this box: 2. To **add** a new filter click on . The filter icon will change to when filters are active. 3. To **delete** an added filter click on .	

The options in this integration are **Time**, **Weighbridge**, and **Weight**.

A **Time range,** within which the search will be conducted, may also be set. To set a **Time range**, click on the blue hyperlinked text which specifies time (e.g. _in the Week to date_).

This will bring up the following dialogue box, where the time range can be defined:
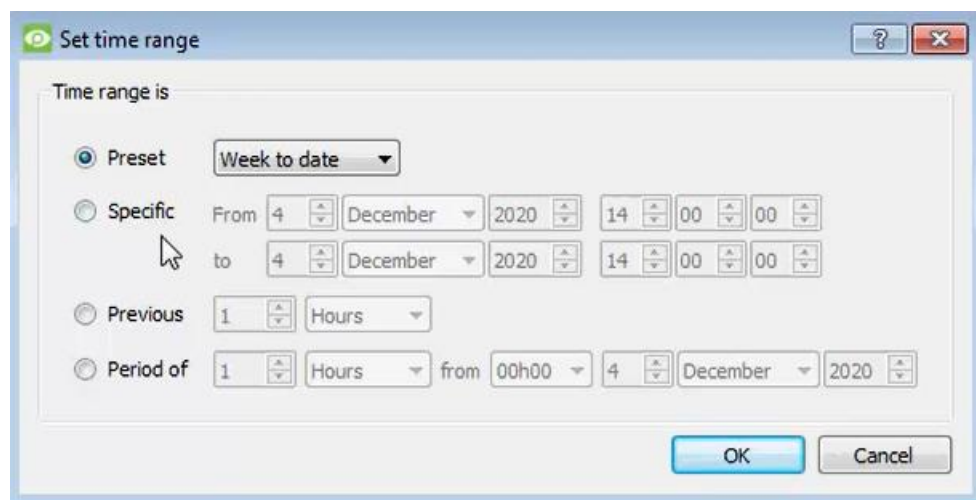
Note:

1. Multiple filters may be run simultaneously, and the same parameter be used to filter more than once.
2. To change a filter click on the blue hyperlinked text. (For example, click on _Time_ to change the filter from Time to any of the other available options.)

⑤ **Export**	Generate metadatabase reports in PDF or CSV format. See below.
⑥ **Manage Reports**	Generate scheduled metadatabase reports. See below.
⑦ **Go to Time**	This navigates to a specific point in time, down to the second. To navigate to a timestamp, set the time using the time and date boxes, and then click on the ➡ icon.

5.2.1 Metadata

Time 2020-12-04 13:54:11
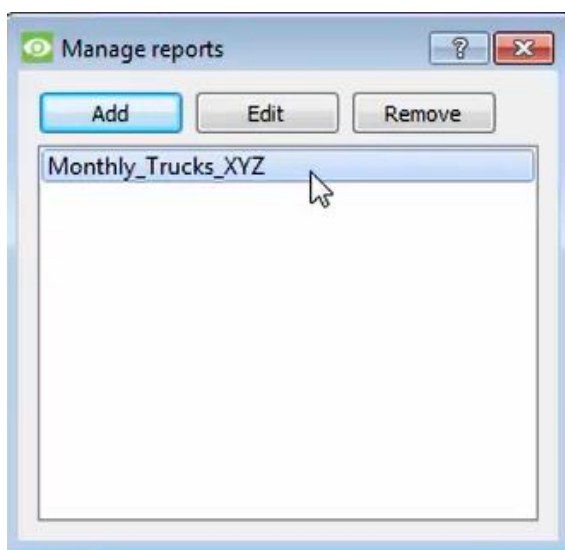**Weighbridge** Weighbridge_1
Weight 8080.000 kg
Camera key 1

The right-hand side of the database displays metadata about the event entry.

5.2.2 Scheduled Metadatabase Reports

Click this icon to open the scheduled report window.

All created reports will be listed here.

First, click **Add** to create a report. Then **edit** to define the reporting schedule. See below for more detail.

To create, edit, or delete a report, select the entry and click on the corresponding button.

5.2.2.1 New Scheduled Report
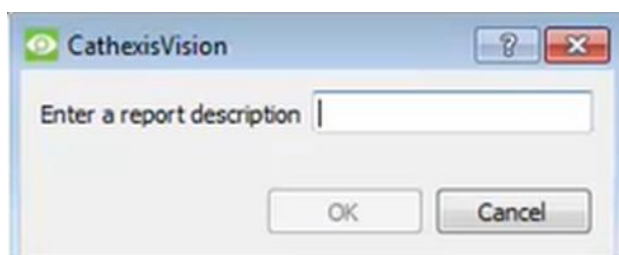
Click **Add** and give the report a description.

Click **OK** when done.

Once the new report is listed with the other reports, select it for editing to define the reporting schedule.

Either right-click the entry and select schedule or select the entry and click the schedule button at the bottom of the screen: Schedule .

Edit the **description** if needed.

Edit **Viewing** options.

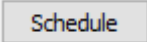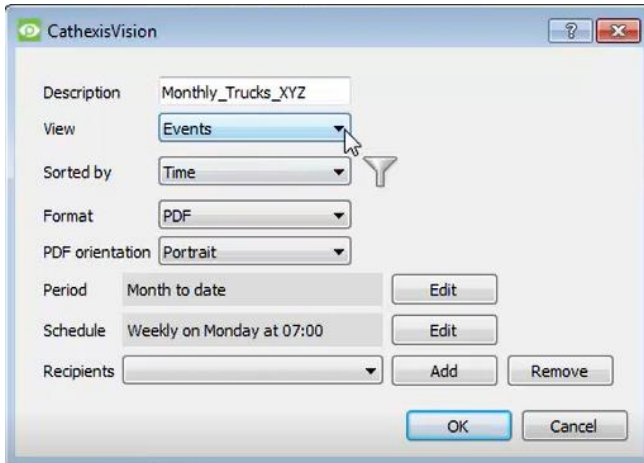Edit the **Sorted by** option. Clicking on the filter icon ⧩ will bring up the filtering options.

Select the **Format**.

Select the **orientation** of the Format.

Select the **period** to be reported on.

Define the **Schedule** for the report.

Add/remove recipients to whom reports will be sent.

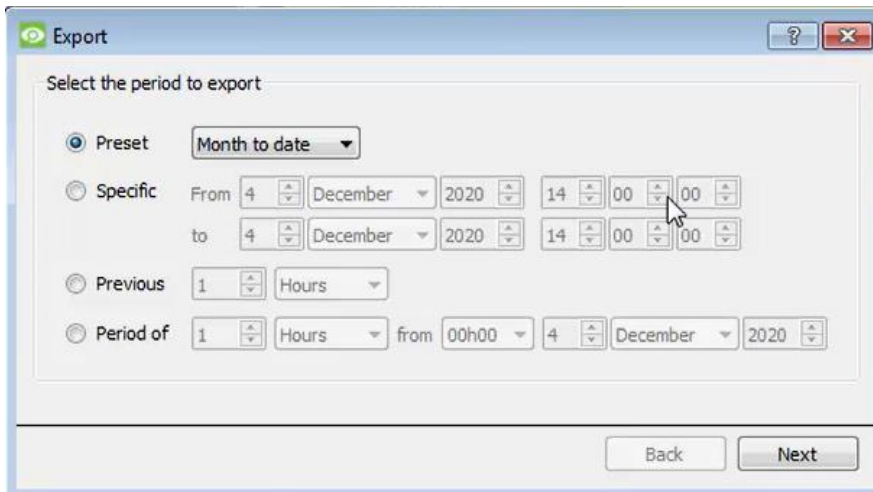| **Add recipient**:	Click **Add** and enter the email address of the recipient. Multiple recipients may be added. All will receive emails.
Remove recipient:	Select the recipient from the dropdown menu and click **Remove**.

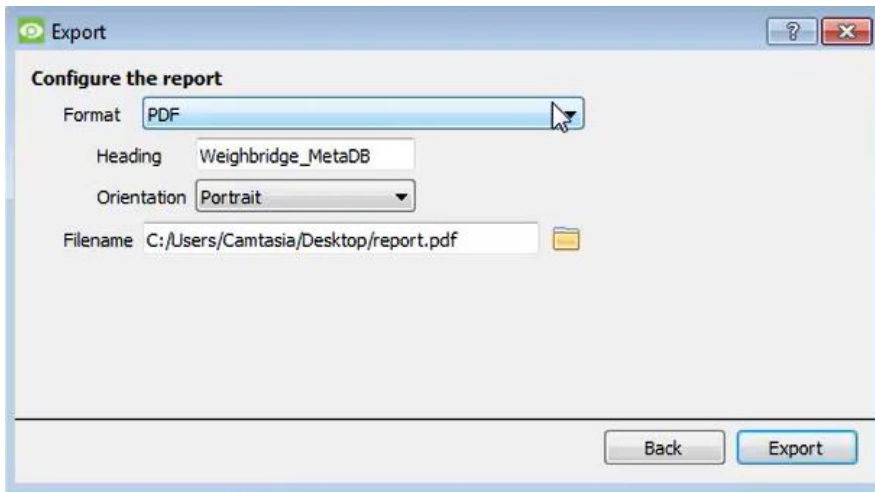## 5.2.3 Generate Metadatabase Reports

 Click this icon to open the Export window.

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

Click **Next**.

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

See below for the two options.

5.2.3.1 Export CSV
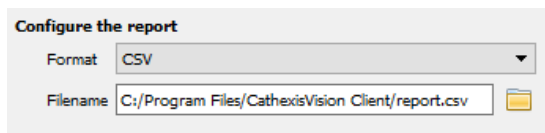
Select CSV **Format**.

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

or click the [folder icon] to choose a new save folder and filename.

5.2.3.2 Export PDF

Select PDF **Format**.

Give the PDF a **Heading**.

Select either Landscape or Portrait **Orientation** of the PDF. Edit the **Filename** by either entering it straight into text field

(replacing **report.csv)**, or click the [folder icon] to choose a new save folder and filename.

5.2.4 Viewing an Entry's Associated Recording
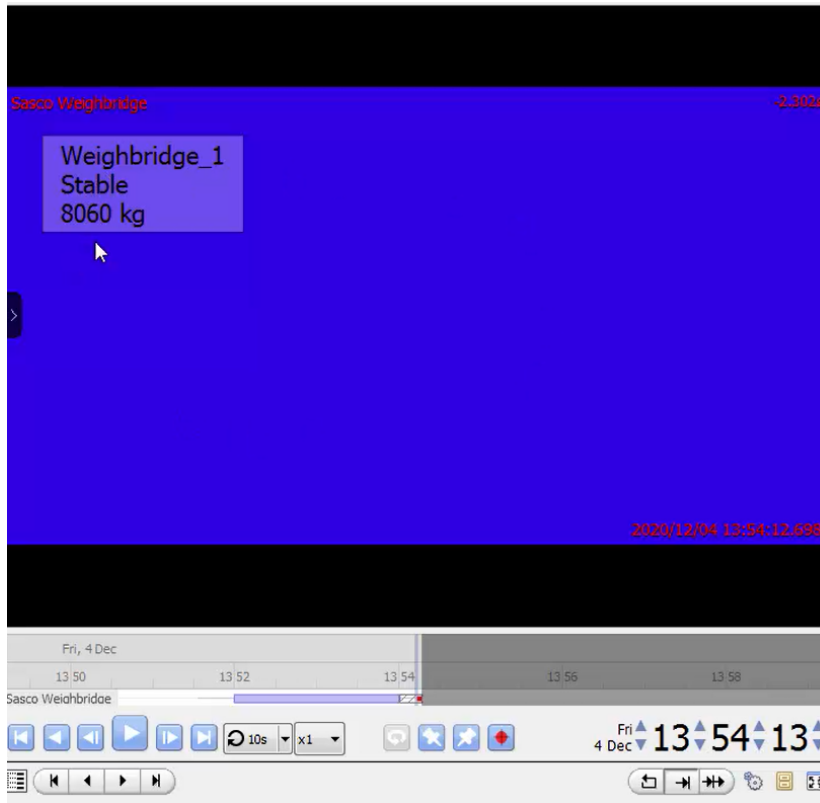
If cameras are attached to device objects in the Integration setup, and if there are available recordings for those cameras, then each Integration database entry will have a corresponding recording.
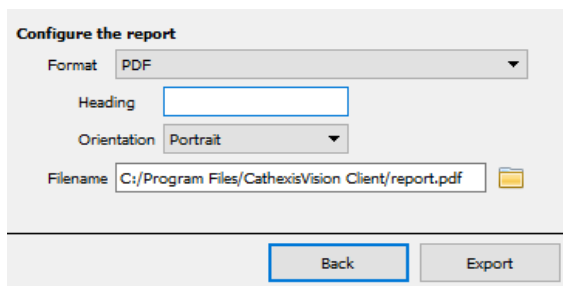
To view a databased event's recording, click on the event entry in the database list. Then view the recording by pressing the **play** icon underneath the window on the right.

6. Events

A CathexisVision Event has a trigger, which causes an action. Set integrated devices to act as triggers, or as actions. This document details the Weighbridge-specific aspects of Events. There is a comprehensive guide to CathexisVision Events in the main setup manual.

Most of the data that CathexisVision receives from a device is presented in the Events interface. This is done in order to give the user a full range of options.

6.1 Event Window

Events in CathexisVision are set up via the Event Window, which has four tabs. In the **General Tab**, an event is given a name, description, schedule and priority. In the **Triggers Tab** the trigger/s for the event are defined. In the **Actions Tab** the action/s which the event takes are defined. In the **Resources Tab** the various site resources which can be used as part of an event are defined.
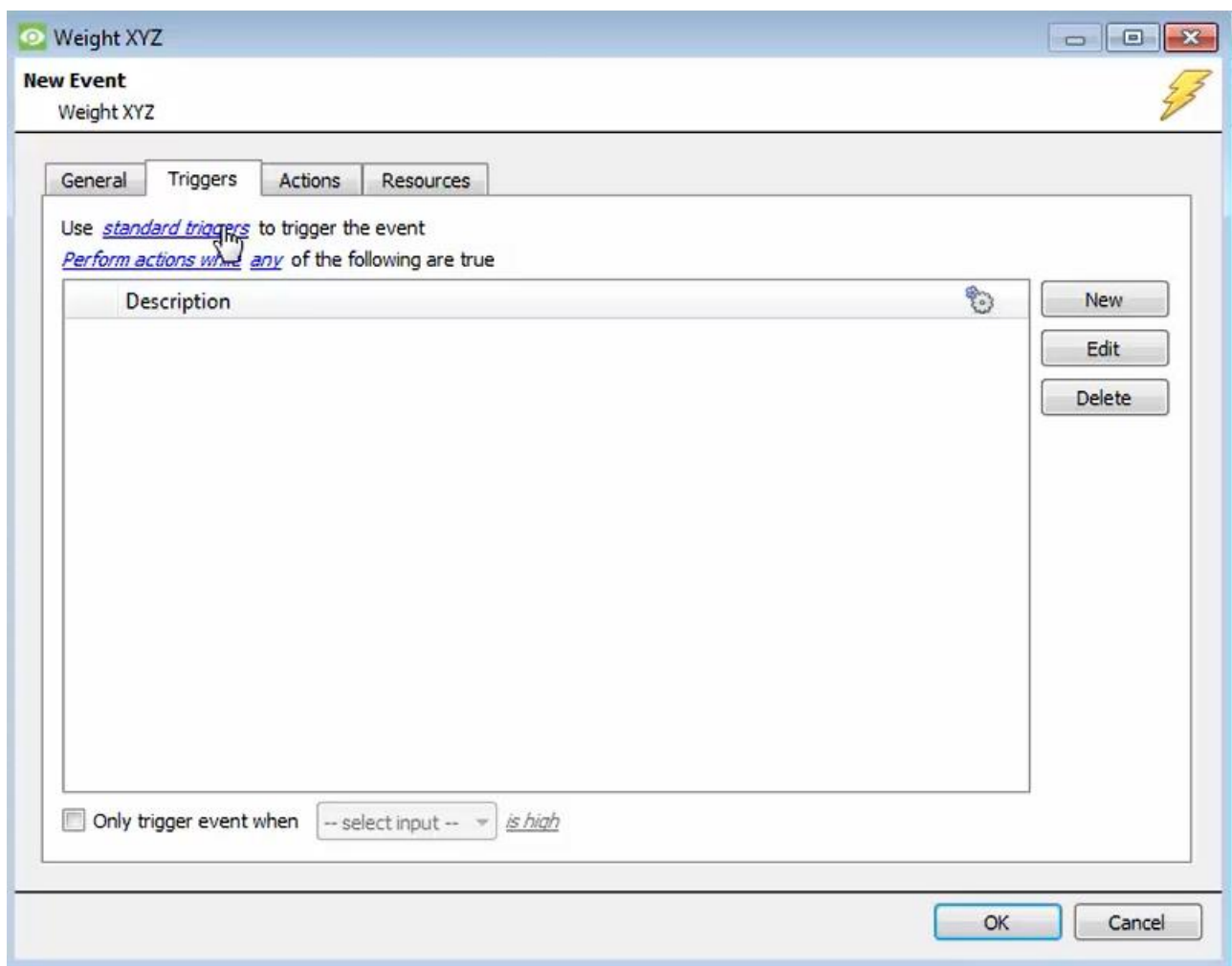
6.1.1 Creating an Event

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

Once in Events, click on [New]. This will open up the **New Event** window.

6.2 Triggers

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

6.2.1 Set the device as the trigger
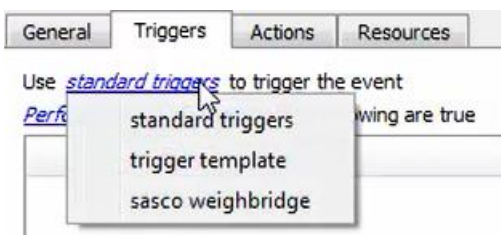
To define which device will be used to trigger the event, click on the hyperlink after "use". To set it as the weighbridge, click on the hyperlink, and select the device name from the dropdown menu.

6.2.2 Trigger Types (Trigger Using)
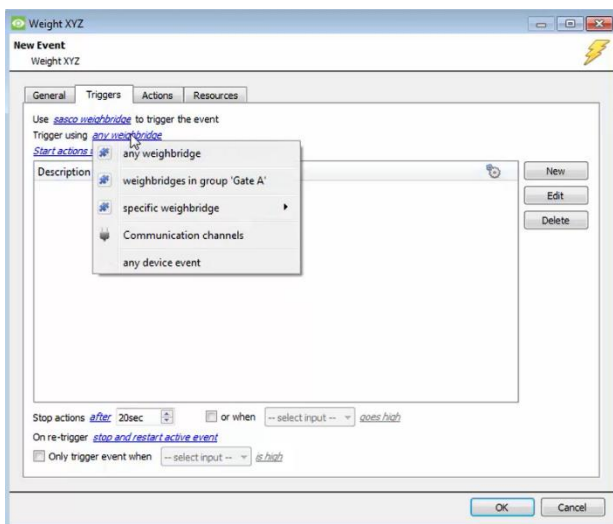
It is useful to think of this as a **master trigger type**.

Note for group triggers: For this event to be databased under the name of a specific object and not the name of the triggering group, the user will need to modify the Description field in the **General tab** of the Event setup. Click on the 🔵 to see a list of available descriptions.

### 6.2.2.1 While / When and Any / All

When triggering on an object, there is the option to trigger **while/when** a trigger is active. Define whether **any device events need** to be active to start actions, or whether **any of the properties need to meet the criteria** set to start actions.

Use *sasco weighbridge* to trigger the event
Trigger using *any weighbridge*
Start actions when *any of the following device events occur*

To change these settings, click on blue hyperlinks.

6.2.3 Define the Trigger

After selecting a master trigger type, add a trigger to the event. Click on New in the Triggers tab. This will bring up the following dialogue box for the various trigger types:
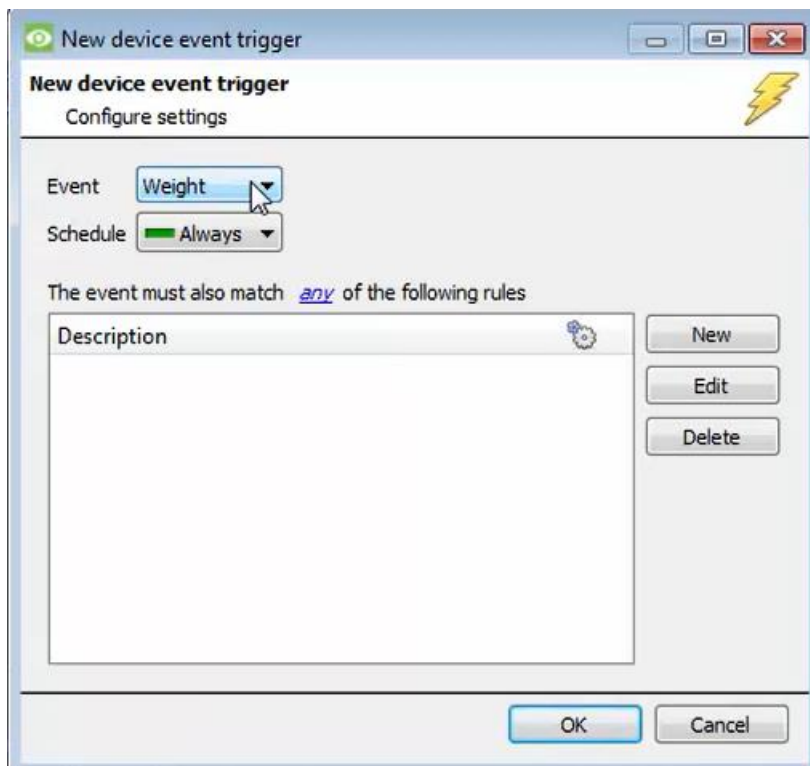
For example, within the **specific weighbridge** option, choose the type of device Event that will be the trigger.

Choose from the drop-down menu.

Note: Multiple constraints (**Device Event Triggers**) can be set. If constraints are not defined, every single device event will trigger this event.

To add/edit/delete a **Device Event Trigger** (a constraint) use the **New, Edit,** and **Delete** buttons on the right-hand side.

Choose if *any*, or *all* constraints need to be fulfilled to set off a trigger.

To configure a New device event rule, click on [New] in the New device event trigger window.

To change the constraint, click on the first hyperlink. This will bring up the full list of available rules. For this integration, the options are Weighbridge and Weight.

To modify the way this rule will be treated, click on the second hyperlink (*equals* in the example). This will display the options for rules.

Note: When all available options are known to CathexisVision, a drop-down menu is displayed. When these variables are not pre-defined, the user will need to fill them in.
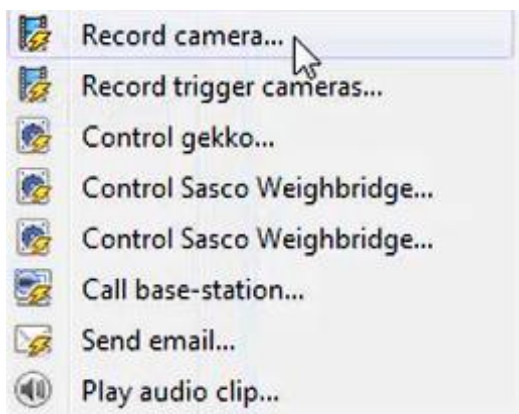
6.3 Actions
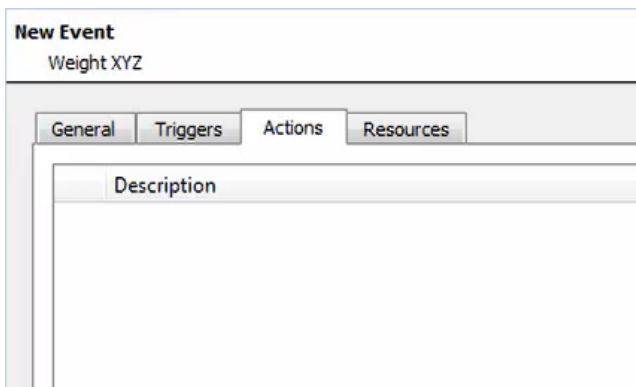
Having defined the triggers that will initiate an event, the user will need to define **Actions**.

6.3.1 Adding an Action

To add an action, click [New] in the **Actions** tab.

A list of available actions will appear.

6.4 Resources Tab

In the Resources tab, the user can select the resources to be used.

The user can choose to **Use trigger resources**. The integration trigger for the event will automatically link the associated camera configured in the integration setup as a camera resource.

Alternatively, the user can manually select weighbridge camera/s if these are different to the already associated camera/s.

7. Conclusion

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

For support, please contact support@cat.co.za