

Hikvision IP Camera Driver Installation and Usage Guide



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Overview

Hikvision, who is a popular surveillance manufacturer, produce a range of products for both residential and commercial applications. As one of our top requested drivers we felt that we needed to create the ultimate Hikvision driver for Control4.

This driver pushes the integration of Hikvision by offering integration to NVR/DVRs, IP Cameras and Doorstation Intercoms which allows integrators to push the boundaries of security and home automation. This means that surveillance is no longer just for security but can also be used to trigger motion-based programming like lighting.

Features

- NVR / DVR
 - Remote control simulation / Hikvision onscreen control over IP for I series NVR and K series DVR (via customised firmware)
- IP Cameras
 - Supports PTZ & Non PTZ Cameras (through NVRs or direct)
 - View live camera stream on Control4 interface
 - PTZ control (Up, Down, Left, Right, Preset, Zoom)
 - Control4 Push Notification Snapshot Support (push notification photos to mobile phones)
 - Live Events
 - Auto-sensing and re-connection of alert stream loss
 - Connect to cameras that are behind a Hikvision NVR
 - Auto import of events including
 - VMD (video motion detection)
 - Tamper Detection
 - Disk Full
 - Disk Error
 - Line Motion
 - Field Motion
 - Video Mismatch
 - Region Entrance
 - Region Exiting
 - Unattended Baggage
 - Attended Baggage
 - Licence Plate Detection (for supported cameras)
 - Ability to bind events to contact drivers in Control4 (eg motion sensor driver)
 - Licence Plate Number Variable (for supported cameras)
 - Programming commands
 - Day Night Mode
 - Goto Preset
 - Auto Flip

- Back to origin
- One touch patrol
- Reboot camera
- Auto Setup of Camera
- You can set camera resolution configuration for best performance for Control4 via a single button press from Composer
- You can set the current position as either a preset or home from Composer

Change Log

Version #20220912 - 12-SEPT-2022

- Improved Documentation
- Fixed issue causing the Server IP in the door station code to be set to 0.0.0.0
- Small bug fixes
- Added Lock binding to Door Station drivers

Version #20220803 - 10-AUG-2022

- Fix for execute command debug call failure

Version #20220803 - 03-AUG-2022

- Improve Diagnostics and Troubleshooting

Version #20220715 - 15-JUL-2022

- Initial release for DS-KD8003-IME1 door station driver
- Initial release for DS-KV8x13-IME1 door station driver which supports KV8213-IME1 and KV8413-IME1 devices
- added fix for Programming Action PUSH_BUTTON_PRESS on the KV8113
- Added Programming Action to trigger the 2 door relays on the KV8113
- Fixed issue with driver setting SIP Server Address to 0.0.0.0 in certain edge cases

Version #20220324 - 24-MAR-2022

- Added 'Device Test' button to Actions tab for quicker troubleshooting
- Fixed authentication failing in certain edge cases on first install
- Added VoiceTalkInteractiveEvent handling to door station

Version #20220307 - 07-MAR-2022

- Initial release for DS-KV8113-WME1(B) door station driver
- Improvements to the code that handles alerts from the nonPTZ cameras to better handle rebranded hardware
- Fixed driver renaming issue on reboot
- Fixed preferred stream being reset on reboot
- Fixed issue with linedetection not being triggered in certain edge cases
- Fixed issue where bindings were not built if alerts were already coming in to the driver

Version #20211021 - 21-OCT-2021

- Fixed issue with PTZ snapshot failing

Version #20211004 - 04-OCT-2021

- Added programming for strobe light and audio alarm triggering
- Improved handling of ANPR detection to more reliably set the ANPR_LICENSEPLATE variable with the detected licence plate
- Added property to manually set snapshot URL in cases where the auto detection fails

Version #20210319 - 19-MAR-2021

- Added Licence plate detection to nonPTZ driver. Including licence plate variable for integrators to program against
- Improved collection of available Basic and Smart Events for creating bindings
- Added NVR driver based on satellite proxy

Version #20210202 - 02-FEB-2021

- Added additional checks to handle authentication issues

Version #20210121 - 21-JAN-2021

- Increased **Properties Preferred Stream** to 10

Version #20210119 - 19-JAN-2021

- Updated to new Driver Central licensing
- Improved handling of triggers from NVRs and DVRs

Version #20200621 - 27-JUL-2020

- Improved handling of devices with non-standard HTTP Ports

Version #20200620 - 03-JUL-2020

- Added Property Alternate URL to modify the snapshot and mjpeg urls for devices that don't handle the extra commands in the URLs

Version #20200616 - 16-JUN-2020

- Added the ability to read newer camera triggers for creation of bindings for event triggers

Version #20200522 - 22-MAY-2020

- Added Enable Alert Processing option in Properties tab to reduce controller load on systems with a large number of cameras
- Added better handling of complex passwords

Verson #20200423 – 23-04-2020

- Fixed issue with PTZ Properties

Verson #20200422 – 22-04-2020

- Added ability to access cameras connected to an NVR
- Improved handling of complex passwords
- Improved creation of bindings for event triggers

Verson #20200320 – 20-03-2020

- Added field to the Properties tab to reverse the pan and tilt commands
- Updated FAQ

Version #20191230 – 30-DEC-2019

- Fixed bug introduced when creating bindings

Version #20191223 – 23-DEC-2019

- Fixed bug with stream URL creation
- Minor changes to documentation
- Update to handling of binding creation

Version #20191216 – 16-DEC-2019

- Initial Release

Standalone Camera(s) on a network switch

Drivers

chowmain_hikvision_PTZ.c4z or chowmain_hikvision-nonPTZ.c4z

When to use

If you have one or more PTZ or nonPTZ drivers that you want to access in Control4 and program against Basic and Smart Events

Driver Install Steps

It is important to add the details in the following order;

1. Advanced Properties > Properties

- a. Is Camera Connected To an NVR No
- b. Preferred Stream 1 Main Stream 2 Sub Stream
- c. Preferred Snapshot URL Change this value to 1 or 2 if the snapshot test fails
- d. PTZ Movement Duration You can adjust this later as required (*not available in nonPTZ driver*)
- e. Reverse PTZ Controls Flips the direction of the pan and tilt (*not available in nonPTZ driver*)
- f. Enable Alert Processing Set this to On if you plan on programming against camera events

2. Properties > Camera Properties

- a. HTTP Port Change as required
- b. RTSP Port Change as required
- c. Required This must be ticked
- d. Username Username for the CAMERA
- e. Password Password for the CAMERA
- f. Type Basic
- g. Hostname / IP Address IP address of the camera

3. Refresh Navigators

4. Make the appropriate Bindings in the Connections tab using a CONTACT_SENSOR driver

I or K Series DVR/NVR

Driver

chowmain_hikvision_nvr.c4z

When to use

- When you want to connect the HDMI port on the DVR/NVR directly to a TV and navigate the NVR interface with a Control4 remote

Notes

This driver requires **special firmware** to make the DVR/NVR's remote control functions available to our driver.

Please contact Hikvision support or visit <https://us.hikvision.com/en/control4-smart-home-solution>

DVR/NVR OSD Configuration

It is important that you install the firmware before completing this step

Via the OSD go to the System > General menu:

- untick **Enable Wizard**
- untick **Enable Password**

DVR/NVR WebUI Configuration

It is important that you install the firmware before completing this step

1. Configuration > System > Security > Authentication > RTSP Authentication = **digest/basic**
2. Configuration > System > Security > Authentication > WEB Authentication = **digest/basic**
3. Configuration > System > Security > Security Service > Enable ISAPI = Ticked
4. Configuration > Network > Advanced Settings > Other > Enable Virtual Host = Ticked (Only required on the NVR)
5. Configuration > System > Camera Management > Make a note of the port used under Connect Port will either be 80 or 650xx. You will need to hover the mouse over the link to see the URL
6. Configuration > Network > Access Platform > Enable Stream Encryption = Unticked

This is enabled if you use Hikconnect

Driver Install Steps

1. In Composer search for **Hikvision**
2. Add **Hikvision NVR** to the project
3. Update **IP Address** of the DVR/NVR
4. Update **HTTP Port** of the DVR/NVR
5. Update **RTSP Port** of the DVR/NVR
6. Update **Username** of the DVR/NVR
7. Update **Password** of the DVR/NVR
8. Update **Authentication Type** of the DVR/NVR

Debug Mode	Off
IP Address	172.16.16.152
HTTP Port	80
RTSP Port	554
Username	admin
Password	*****
Authentication Type	BASIC

9. Set the Configurable Buttons as required

Configurable Buttons	
CC	F1
INPUT - TV-VIDEO	Prev
PREV - RECALL	None
INFO	EDIT
DVR	None
GUIDE	None
BLUE BUTTON	None
RED BUTTON	None
GREEN BUTTON	None
YELLOW	None

- 10.Refresh Navigators

I or K Series DVR/NVR with Cameras

Driver

chowmain_hikvision_nvr.c4z and,

chowmain_hikvision_PTZ.c4z and/or chowmain_hikvision-nonPTZ.c4z

When to use

- When you have an I or K series device and want to connect the HDMI port on the DVR/NVR directly to a TV and navigate the NVR interface with a Control4 remote
- You also want to have access to individual streams of one or more cameras physically connected behind the DVR/NVR
- You want to program against Basic or Smart Events from one or more cameras physically connected behind the DVR/NVR

This driver requires special firmware to make the DVR/NVR's remote control functions available to our driver. Please contact Hikvision support

Driver Install Steps

1. Follow the install steps for the **I or K Series DVR/NVR** first
2. Now follow the install steps for **Camera(s) physically connected to a DVR/NVR**

Camera(s) physically connected to a DVR/NVR

Driver

chowmain_hikvision_nvr.c4z and,

chowmain_hikvision_PTZ.c4z and/or chowmain_hikvision-nonPTZ.c4z

When to use

If you have one or more PTZ or nonPTZ cameras connected to an NVR that you want to access in Control4 and program against Basic and Smart Events

The Hikvision NVR driver essentially becomes a master driver that not only improves the setup time when adding a large number of cameras, it also better handles events from the DVR/NVR when you have more than a few cameras connected.

Driver Install Steps

1. Follow the install steps for the **I or K Series DVR/NVR** first
2. In Composer search for **Hikvision**
3. Add **Hikvision PTZ** or **Hikvision nonPTZ** to the project
4. Go to the **Connections** tab for the camera driver
5. Select the Hikvision NVR Control



6. bind it to the appropriate **Hikvision Output Device**

Device	Name	Location	Connections
Network Video Recorder	Channel 1	DO NOT DELETE	
Network Video Recorder	Channel 2	DO NOT DELETE	
Network Video Recorder	Channel 3	DO NOT DELETE	
Network Video Recorder	Channel 4	DO NOT DELETE	
Network Video Recorder	Channel 5	DO NOT DELETE	
Network Video Recorder	Channel 6	DO NOT DELETE	
Network Video Recorder	Channel 7	DO NOT DELETE	
Network Video Recorder	Channel 8	DO NOT DELETE	
Network Video Recorder	Channel 9	DO NOT DELETE	
Network Video Recorder	Channel 10	DO NOT DELETE	
Network Video Recorder	Channel 11	DO NOT DELETE	
Network Video Recorder	Channel 12	DO NOT DELETE	

7. Go to the **System Design** tab
8. Confirm that all the Properties are correctly completed and modify as required
9. Confirm that both the **Get Snapshot URL** and **Get H.264 URL** tests pass

Configuring Events

The camera driver will populate the bindings for each available Basic and Smart Event available, once the camera receives a trigger from the Hikvision NVR driver

Name	Type	Connection	Input/Output	Connected To
Control Inputs				
Hikvision NVR	Control	Hikvision	Input	Network Video Recorder->Channel 16
Control Outputs				
IO	Control	CONTACT_SENSOR	Output	
IO	Control	CONTACT_SENSOR	Output	
IO	Control	CONTACT_SENSOR	Output	
IO	Control	CONTACT_SENSOR	Output	
softIO	Control	CONTACT_SENSOR	Output	
softIO	Control	CONTACT_SENSOR	Output	
softIO	Control	CONTACT_SENSOR	Output	
softIO	Control	CONTACT_SENSOR	Output	
softIO	Control	CONTACT_SENSOR	Output	
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softIO	Control	CONTACT_SENSOR	Output	
softIO	Control	CONTACT_SENSOR	Output	
softIO	Control	CONTACT_SENSOR	Output	
softIO	Control	CONTACT_SENSOR	Output	
VMD	Control	CONTACT_SENSOR	Output	
tamperdetection	Control	CONTACT_SENSOR	Output	
videoloss	Control	CONTACT_SENSOR	Output	
fielddetection	Control	CONTACT_SENSOR	Output	
linedetection	Control	CONTACT_SENSOR	Output	linedetection - Motion Sensor->Contact Sensor

Fine Tuning

When the configuration has been successful, the driver will populate the Properties fields and rename the driver in the System

Use the **PTZ Movement Duration** scroll bar to adjust how long each PTZ button press should last. A smaller number is better suited to when your camera is always zoomed in. *(not available in nonPTZ driver)*

The **Preferred Stream** allows you to choose which stream you want to use for the snapshot and stream, the Main Stream, Sub Stream or 3rd Stream (if it is configured)

(PLEASE REFRESH NAVIGATOR FOR THIS SETTING TO TAKE EFFECT!)

Use **Reverse PTZ Controls** if you find that panning or tilting is the reverse of what is expected. *(not available in nonPTZ driver)*

The **Enable Alert Processing** option has been added as some projects can become overwhelmed with processing a large number of triggers when there is a high number of cameras added to a project.

General DVR/NVR Usage

Live view

In live view, the device will sequentially rotate through the cameras.

Pressing the Hikvision **PREV** button cycles through the grid view

Using the number buttons will set that particular camera full screen

For cameras that have PTZ functionality, you can use the Up/Down/Left/Right/Page Up/Page Down to control the camera

Playback view

Note: You can't access the camera listing on the left of the playback view with the remote

When in Live View, press the Play or OK button to enter Playback view.

Pressing the Play or OK button again will bring up a menu to select the camera, date and time

Use the Up/Down/Left/Right/OK to adjust and select the date and time

When you're watching a recording

- Use the **left** and **right** or the |< and >| buttons to skip forward 30 seconds
- Use the << and >> buttons to step a frame back or forward
- Use the **F1** assigned button to switch the direction of the playback

Control4 Remote with Hikvision DVR/NVR

We have made what we believe to be the most user friendly mapping of the Hikvision remote to Control4's remote. We also understand that there are always edge cases that require different mappings.



Hikvision Remote Button Number	Hikvision Remote Label	Control4 Remote Button Name
3	Number keys	Same
4	Edit	This can be assigned to any of the buttons in the Properties' Configurable Buttons
6	REC	This is assigned to the Record button
7	PLAY	By default this is assigned to the DVR button. This can be assigned to any of the buttons in the Properties' Configurable Buttons
10	MENU	This is assigned to the Menu button
11	PREV	This can be assigned to any of the buttons in the Properties' Configurable Buttons
12	UP/DOWN/LEFT/ RIGHT	These are assigned to UP/DOWN/LEFT/RIGHT/OK

Hikvision Remote Button Number	Hikvision Remote Label	Control4 Remote Button Name
14	ESC	This is assigned to the Back button
16	F1	This can be assigned to any of the buttons in the Properties' Configurable Buttons

Please Note: In the driver's **Properties** tab, you can change what certain C4 remote buttons do under the **Configurable Buttons** heading:

Configurable Buttons	
CC	F1
INPUT - TV-VIDEO	Prev
PREV - RECALL	None
INFO	EDIT
DVR	None
GUIDE	None
BLUE BUTTON	None
RED BUTTON	None
GREEN BUTTON	None
YELLOW	None

Additional Control4 Remote Buttons

Channel Up/ Down	Switches to the previous or next channel in full screen mode
Page Up/ Down	Zoom in or zoom out on supported cameras

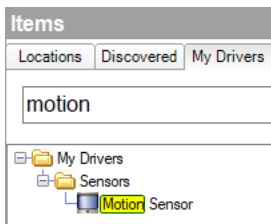
Actions

ACTIONS TAB

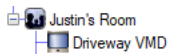
Re-build Bindings	If you find that you don't have any bindings for the alert triggers and are confident that the camera is configured correctly, pressing this button will recreate these bindings
Configure Camera resolution for Control4	You can use this option to set the stream you have selected in Preferred Stream on the Properties tab to a supported resolution that is optimal for
Set Current Position as a Preset	Set the current position of the camera as a preset with a label
Set Current Position as Home	Set the current position of the camera as the 'Home' preset
Restart Event Listener	Use this option to reinitialise the smart and basic alert streams should this stop working. This usually occurs if you have changed any of the connection or authentication settings on the Camera Properties tab
Print Configuration Data	Use this to output the settings of the driver into the Lua tab
Camera Reboot	Quick way to reboot the camera
Driver Update	Forces the driver to recheck all the data for the Properties tab and Connections bindings

Bindings on the Connections tab

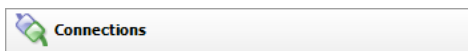
1. Search for *Motion* in **My Drivers** and add it to your project



2. Give the sensor a name like *Driveway VMD*



3. Select **Connections**



4. Select your camera from the Tree on the left.
5. The Control Outputs should now be populated with all the available contact sensors
6. Make the binding between the Driveway contact sensor and the camera VMD

CONTACT_SENSOR Input Devices			
Device	Name	Location	Connections
Driveway VMD	Contact Sensor	Justin's Room	IP DOME->VMD

Configuring Push Notification Agent

1. On the Properties tab, choose the Preferred Stream number and press Set



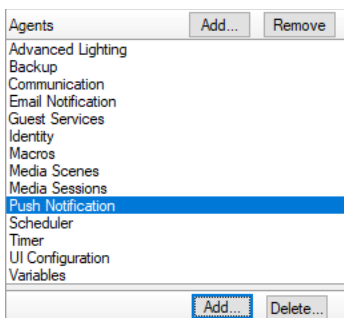
Preferred Stream 2

2. (optional) On the Actions tab, press the Configure Camera Resolution for Control4
3. Open Agents



Agents

4. Select Push Notification and press Add... below

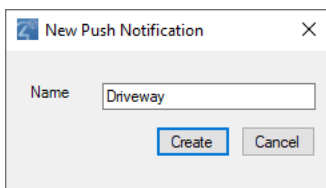


Agents Add... Remove

- Advanced Lighting
- Backup
- Communication
- Email Notification
- Guest Services
- Identity
- Macros
- Media Scenes
- Media Sessions
- Push Notification**
- Scheduler
- Timer
- UI Configuration
- Variables

Add... Delete...

5. Enter the name of the notification and press Create

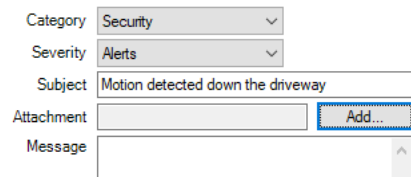


New Push Notification X

Name Driveway

Create Cancel

6. Add the Subject line and press Add... to select the snapshot



Category Security

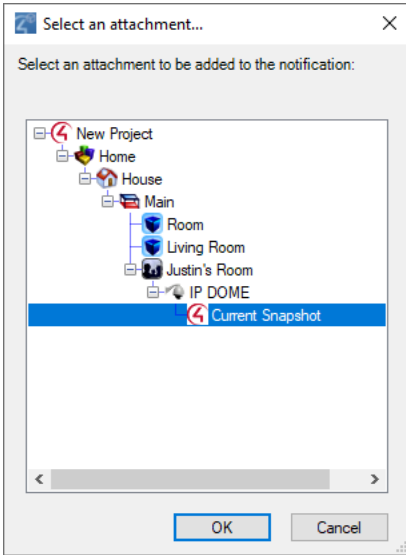
Severity Alerts

Subject Motion detected down the driveway

Attachment Add...

Message

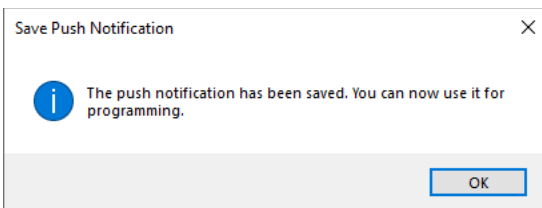
7. Expand the tree to your camera and select Current Snapshot



8. Select Save



9. Press OK



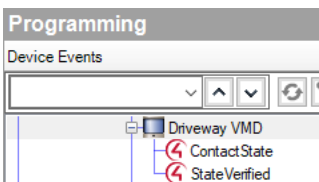
Send Push Notifications when a binding is triggered

Once you have successfully set up Bindings on the Connections tab you can tie that in with the Programming tab

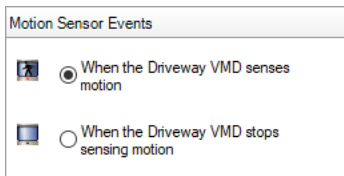
1. Select Programming



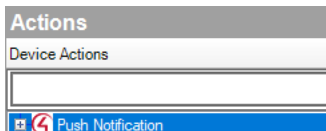
2. Under Device Events select your Driveway VMD motion sensor



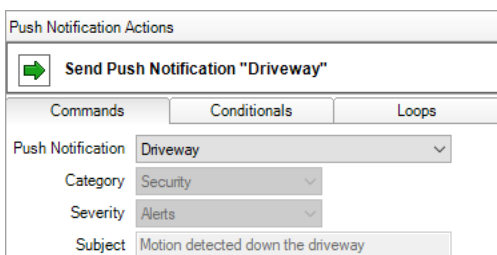
3. Select When the Driveway VMD senses motion



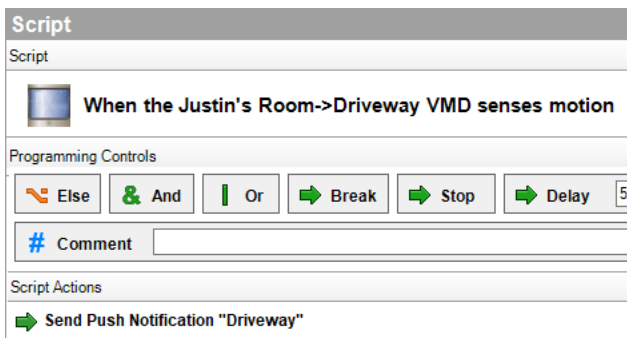
4. Now, under Actions select Push Notification



5. Select Driveway from the Push Notification

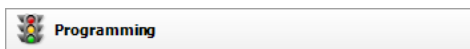


6. Now drag the green arrow across to the Script Actions

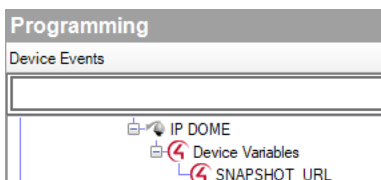


Programming against Activated Alerts

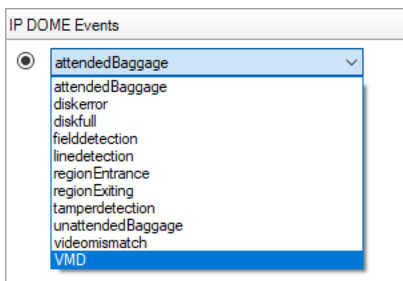
1. Once the Active Events Properties field has been populated, you are ready to program against the activated alerts



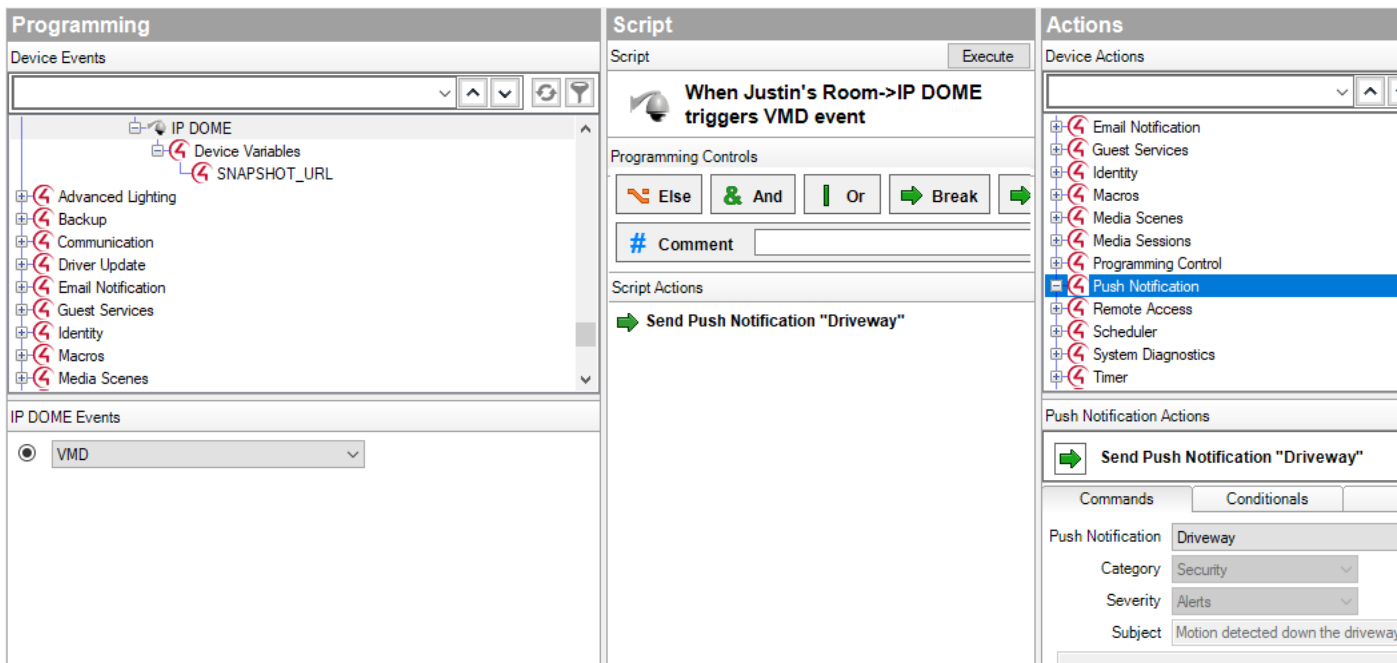
2. Select the camera from the Device Events window



3. Select the event from the drop down list;



4. The below screenshot utilises the Push Notification Agent Action to only send a snapshot when the camera triggers the specified event, rather than using "When SNAPSHOT_URL changes";



ANPR Programming

First and foremost, your camera must support ANPR for this to work.

1. Add a motion sensor driver to your project and make the binding to the ANPR on the Hikvision driver

Name	Type	Connection	Input/Output	Connected To
Control Inputs				
Hikvision NVR	Control	Hikvision	Input	
Control Outputs				
ANPR	Control	CONTACT_SENSOR	Output	License Plate Detected->Contact Sensor

Device	Name	Location	Connections
License Plate Detected	Contact Sensor	Work	Driveway Camera->ANPR

2. Select the Programming section



3. Select the motion sensor you just added to the project under Programming and click **When the senses motion** radio button

Programming

Device Events

- License Plate Detected
- Driveway Camera
- Left Garage Door
- Right Garage Door

License Plate Detected Events

When the License Plate Detected senses motion

When the License Plate Detected stops sensing motion

4. Now select what you'd like to program under Actions. In this example we'll use the ANPR_LICENSEPLATE variable **Conditionals** tab to determine which garage door to open

ANPR_LICENSEPLATE Actions

If Work->Driveway Camera->ANPR_LICENSEPLATE EQUAL TO XYZ789

Commands Conditionals Loops


Is =

Is =

Alfresco->AVAILABLE_CAMERAS

Script

Script

 **When the Work->License Plate Detected senses motion**

Programming Controls

Else
 & And
 | Or
 ➔ Break
 ➔ Stop
 ➔ Delay
 seconds

Comment

Script Actions

- ? If Work->Driveway Camera->ANPR_LICENSEPLATE EQUAL TO ABC123
 - ➔ Open the Work->Left Garage Door
- ? If Work->Driveway Camera->ANPR_LICENSEPLATE EQUAL TO XYZ789
 - ➔ Open the Work->Right Garage Door

To make sure you have the correct format of the license plate for the above programming, do the following:

1. Successfully trigger the ANPR alert with a car
2. Go to the **Agents** section
3. Select **Variables** on the left
4. Tick **Display System Variables**
5. Locate the variable (I usually sort by Device Name) ANPR_LICENSEPLATE for the camera. The **Value** must match exactly

System Variable Name	Device Name	Value	Type	Description	Last Upd
ANPR_LICENSEPLATE	Work->Driveway Camera	ABC123	String		4/10/202

What cool things can we do with this driver?

- The driver's Auto setup functionality makes configuration of the cameras quick and easy.
- Onscreen user interface control on the K & I series DVR / NVR via remote control simulation (requires special firmware).
- Access IP camera live streams when behind an NVR
- Access camera live streams when behind an DVR
- Receive alerts on mobile devices using the Push Notification Agent.
- This driver provides the ability to attach snapshots to Control4 Push Notifications (4sight required). Tie this in with the camera's motion events and your customer can get notified (with an image) if the camera detects motion.
- Access to currently active, *basic* and *smart* events that you can use to program Control4 actions against including bindings on the Connections tab
- Licence Plate recognition (on supported cameras)
- Choose which stream to utilise with the driver.
- The driver will automatically update its name to reflect the device name set in the webui.
- Set presets via Composer.
- Trigger camera commands via the Programming tab.
- Ability to change the camera resolution to better match Control4's preferred resolution

What site setups does this driver support?

- One or more standalone cameras connected to shared network switch without an DVR/NVR
- One or more cameras physically connected to the rear of an DVR/NVR
- One or more cameras physically connected to the rear of an DVR/NVR including one or more cameras connected to a shared network switch that are added to the DVR/NVR

What products will this work for?

This will work with Hikvision's range of IP cameras. Some manufacturers "OEM" Hikvision's cameras and re-badge them as their own so these should also work with our driver. Please test prior to licence purchase as some features can be stripped from OEM devices.

What NVR / DVR devices does your driver support?

Hikvision have made available firmware for the K Series DVRs and the I Series NVRs that allows our driver to control the OSD for these devices when connected via HDMI.

Please contact Hikvision support to access this updated firmware

What about Hikvision's other NVR range?

Our camera driver supports cameras connected to the rear of NVRs for live view of cameras along with PTZ and events.

What about Hikvision's other DVR range?

To access the image, rtsp stream and receive alerts, the DVR must support the ISAPI protocol. This support will be listed in the device's specifications under Network Protocols.

Our driver can display the stream and get snapshots from coaxial camera's that sit behind an DVR.

The only limitation is that the driver can't build bindings for event triggers.

Common issues

The rtsp stream test passes but doesn't show on the C4 UI

Stream encryption is enabled.

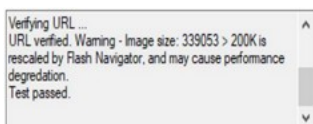
- Using the OSD via an external monitor and mouse (You can't use the webui to change this setting), navigate to Menu > Configuration > Network > Advanced > Platform Access and untick Enable Stream Encryption
- If the stream is still encrypted, you will have to untick Stream Encryption in the webui as well, under Configuration > System > Security > Security Service

I have configured my camera correctly however, there are no bindings for my Events.

Please make sure you have updated the camera to the **latest firmware available**.

There is a known bug with some firmware that doesn't report the currently configured Basic or Smart events.

My Snapshot test passes however I get a notice that says *Image size: xxxxxx > 200K is rescaled by Flash Navigator, and may cause performance degradation. Test Passed.*



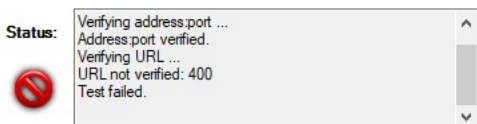
You need to reduce the snapshot image size. Some devices will only send a snapshot from the main stream so you will need to reduce this stream until it produces an image that is smaller in size than 200KB

The snapshot test fails with *URL not verified: The remote server returned an error: (500) Internal Server Error.*

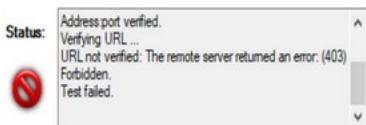
Some devices only return the snapshot for the main stream. If the main stream resolution is over a certain size, the device fails. This is a limitation of the device and not Control4 or the driver.

To fix this, you need to lower the resolution of the main stream until the device sends the snapshot.

The snapshot and/or Mjpeg test fails with URL not verified: 400



The snapshot test fails with URL not verified: 403



This is caused when the device doesn't return a jpg file using the URL in the test.

The driver normally handles this but some cases may fail.

Use the Property field **Preferred Snapshot URL** to manually set the URL. Try either 1 or 2 and run the test to find the correct URL

The H.264 Test fails with Address port verification failed: Timeout

This is likely due to the NVR/IPC being configured with a different RTSP Port to what the driver is using. Sometimes you'll get more information re the endpoint actively refused the connection on this port

```
Testing H264 ...
Verifying address:port ...
Address:port verification failed: Timeout
Test failed.
```

URL not verified: Your GStreamer installation is missing a plug-in

This is likely caused by one or both of the following:

1. The camera stream being set to H.265 in:

Configuration > Video/Audio > Video > Video Encoding

2. Protected Stream being enabled. You can only access the following using the NVR's OSD display with a monitor and mouse. (you can't use the web UI):

Configuration > Network > Access Platform > Enable Stream Encryption

```
Address:port verified.
Verifying URL ...
URL not verified: Your GStreamer installation is missing a
plug-in.
Test failed.
```

URL not verified: Unsupported Protocol

Confirm that the steam (Main Stream, Sub-stream) is set to **H.264**

Confirm that Authentication in the driver is set to **BASIC**

Confirm that the NVR/Camera authentication is set to **basic/digest**

```
Verifying address:port ...
Address:port verified.
Verifying URL ...
URL not verified: Unsupported protocol
Test failed.
```

Upgraded firmware to 5.5.0 and driver not working as expected

Hikvision have included an option to enable/disable the way our driver communicates with the device. By default this is disabled and is explained further in the bulletin linked below;

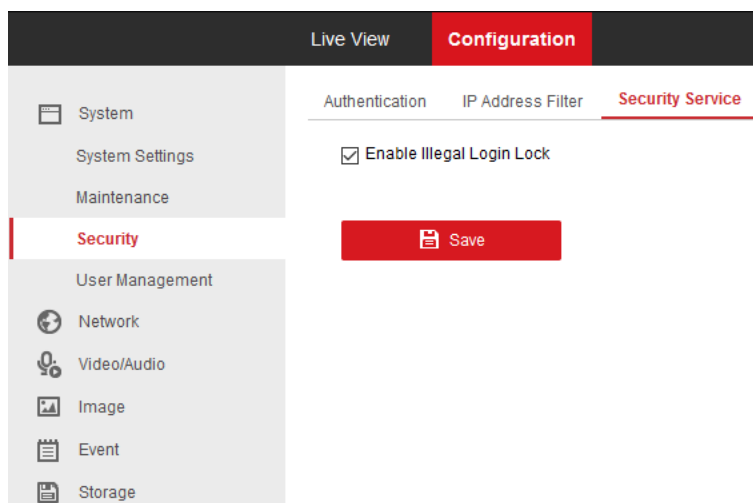
[Hikvision Third-Party Integration Bulletin](#)

I have received an Authorization Error Timeout Detected message in the logs. What do I do?

This is caused by having either the wrong username, password or authentication type (Basic or Digest) whilst **Enable Illegal Login Lock** is ticked.

You should be able to find this located under **Configuration > Security > Security Service**

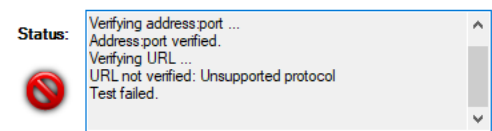
Temporarily unticking this box will allow you to fix any errors in the username, password or auth type.



We recommend re-ticking this option once you have the driver configured correctly.

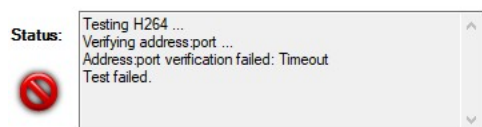
URL not verified: Unsupported protocol

Check that the stream you have selected is set to use codec h264 and not h265 in the device.



Port

You likely have the incorrect rtsp port set in the driver. By default it will be set in the device as 554. If you have changed this, then you need to update the driver to match



I cannot see the video stream even though the test passes

In some cases, the tests will pass even though the Control4 UI cannot handle the stream. This is usually due to video resolution.

Control4 advises the following:

1. 1280x720 is the maximum supported resolution for T4 & T3 touch screens, iOS & Android apps and the On Screen Display (OSD)
2. Frame rate and iFrame intervals will vary based on location and content. If the content is consistently changing, a low iframe interval is recommended as the iframe is updated more often. On Screen Display doesn't support a high frame rate. It is important to understand that Frame Rate is dependent on both the Control4 system configuration and what the cameras are monitoring. Because of this, exact guidelines are difficult to provide. However, a base line configuration as shown below may provide a good starting point.

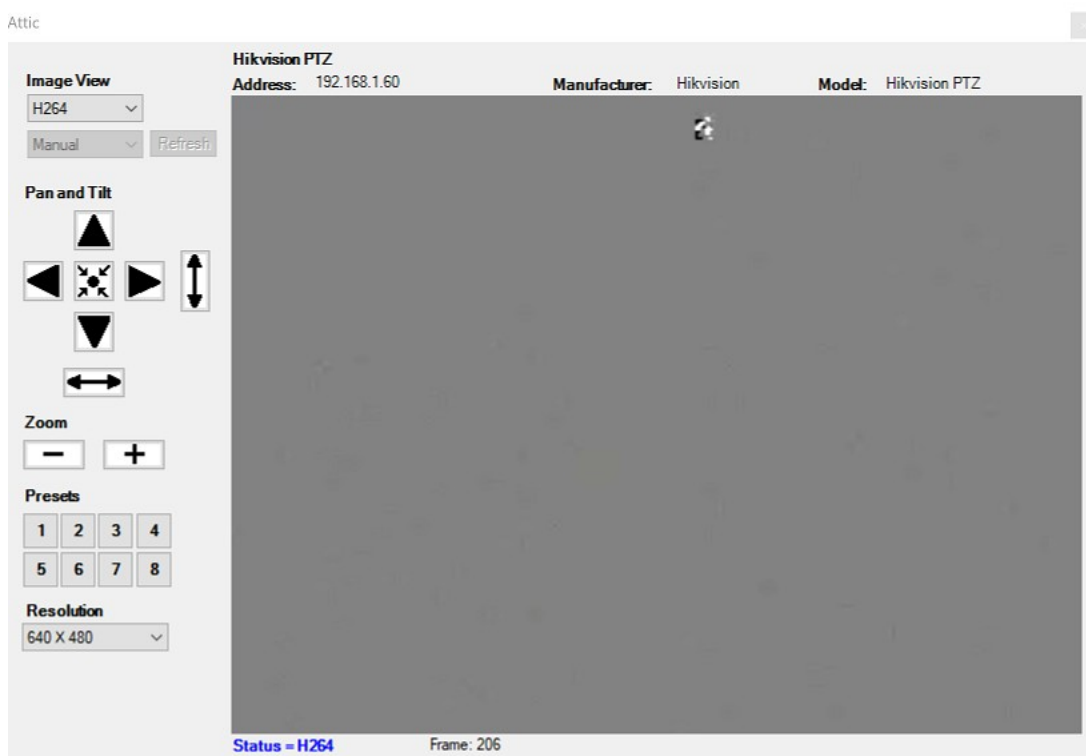
Stream Type	<input type="text" value="Third Stream"/>
Video Type	<input type="text" value="Video Stream"/>
Resolution	<input type="text" value="1280x720P"/>
Bitrate Type	<input type="text" value="Variable"/>
Video Quality	<input type="text" value="Medium"/>
Frame Rate	<input type="text" value="30"/> fps
Maximum Bitrate	<input type="text" value="1024"/> Kbps
Video Encoding	<input type="text" value="H.264"/>
Profile	<input type="text" value="Main Profile"/>
I Frame Interval	<input type="text" value="50"/>
SVC	<input type="text" value="OFF"/>
Smoothing	<input type="range" value="50"/> [Clear↔Smooth]

You can confirm the details of the video stream using VLC

1. Copy the url from the Camera Test > Get H.264 URL
2. Open VLC
3. Click Media > Open Network Stream...
4. Under the Network tab, paste the url in and click Play
5. Enter credentials as required
6. When the stream is playing in VLC, click Tools > View Codec Information

My video stream displays a grey stream with some artifact (shadows or pink/green/black/white artifacts)

You can confirm if this is the case in Composer by double clicking on the Hikvision driver and selecting H264 from the **Image View** dropdown and you have something similar to the following (*note that if our driver fails to get the stream there would be a black window with the C4 logo in it*):



An example of an encrypted stream:

The video stream is encrypted as you likely have Hikconnect or equivalent enabled in the device.

1) On an NVR

1) Using the OSD via an external monitor and mouse (You can't use the webui to change this setting), navigate to Menu > Configuration > Network > Advanced > Platform Access and untick *Enable Stream Encryption*

2) If the stream is still encrypted, you will have to untick **Stream Encryption** in the webui, under Configuration > System > Security > Security Service.

2) On a standalone camera

Open the webui for the camera and navigate to Menu > Configuration > Network > Advanced > Platform Access and make sure that 'Enable Stream Encryption' is not ticked.

Note that the option may be located in a different menu depending on the firmware

Whilst you can run Hikconnect (without the stream encryption) and our driver simultaneously, this is a reduction in security, you need to discuss this with your client.

I can access the video stream via the app whilst on the network but not remotely

1) You must have a 4Sight account

2) Check the driver Properties tab, in the the Address section, make sure that **Publically Accessible** is **unticked**.

Licensing

- How does the trial period work?

All Chowmain drivers are free to use for a set trial period. When the trial expires the driver will cease to function until you purchase a licence and apply it to the driverCentral project.

- Where do I buy a Licence from?

This driver is developed by Chowmain software & Apps and is distributed by driverCentral, Inc <https://www.drivercentral.io/chowmain-ltd>

To purchase a driver:

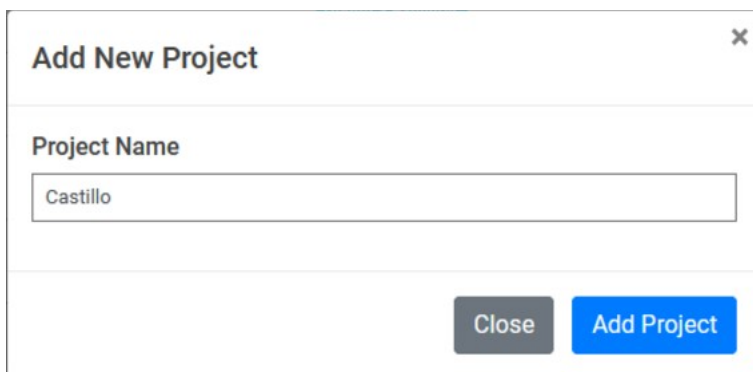
1) On driverCentral, purchase a license and register it to your project

1) If the driver is not already installed in your project, download it and install it

1) If necessary, use the cloud driver's Action: "Check Drivers" to force the licence to download into the project

Creating a Project on Driver Central

1. Visit <http://www.drivercentral.io>
2. Log into your driver Central dealer account
3. Click **Portal**
4. Click **New Project**
5. Enter the project name



The screenshot shows a modal dialog box titled "Add New Project". Inside the dialog, there is a label "Project Name" above a text input field. The input field contains the text "Castillo". At the bottom right of the dialog, there are two buttons: a grey "Close" button and a blue "Add Project" button.

6. Click **Add Project**
7. Click on the project we just created

Project	Status	Created
Castillo	Unassigned Project	1999-12-31 23:59:56

8. Take note of the **Project Token** as this will be used later when we install the Cloud Driver

Castillo ✕

Project Token: ABCDEFG012	MAC: 000FFF123456	IP: 1.2.3.456
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Connection Status: Offline	Last Seen:	Actions: + 🔗 🗑️
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There are no drivers attached to this project.

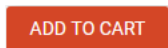
Close

9. Click **Close**

Purchasing a Driver Licence

1. Visit <https://www.drivercentral.io/chowmain-ltd/> and find the product/driver you want to purchase a licence for

2. Click on **Add to Cart**



3. Now click the shopping cart icon (top right) and click **View cart**

🔍
👤
🛒

BenQ universal projector

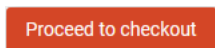
2 x \$70.00

Hikvision

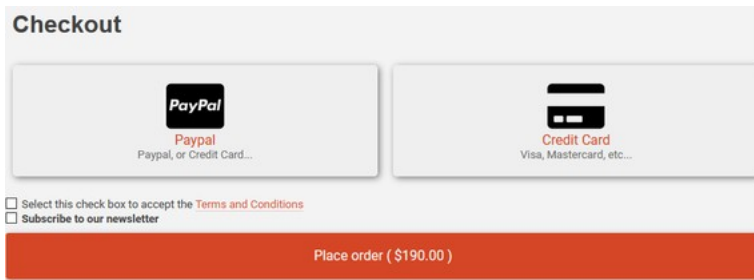
1 x \$50.00

View cart

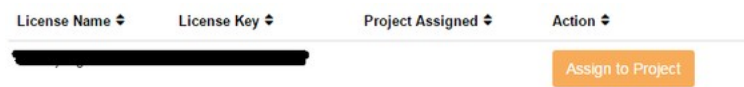
4. Confirm that your order is correct and click on **Proceed to checkout**



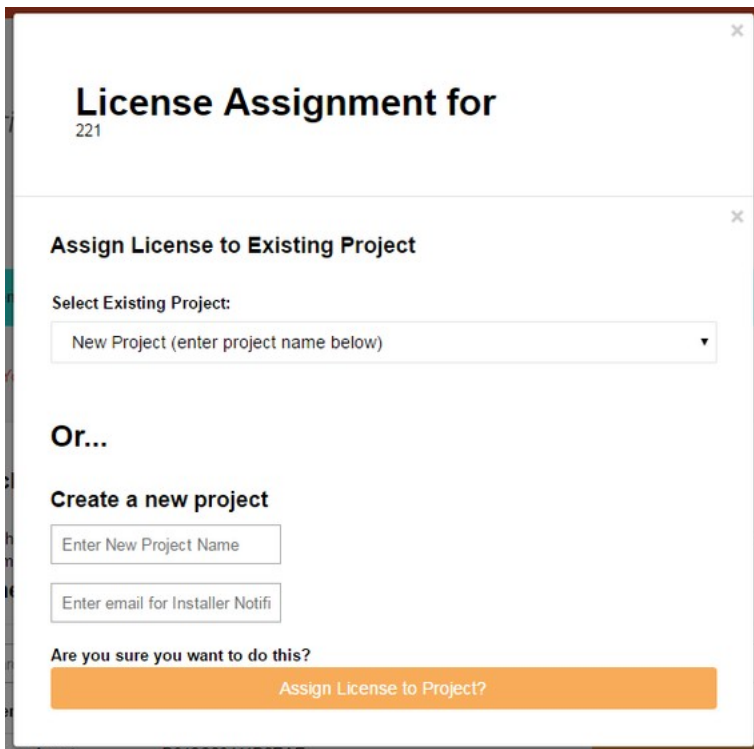
5. Choose your payment option, provide the relevant details and click **Place order**



6. You will now be at a page where you can see your purchased licence

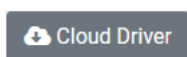


7. From here assign the licence to the project we created or if you did not follow that step create a new project



Install the driverCentral cloud driver

1. Visit <http://www.drivercentral.io>
2. Log into your driver Central dealer account
3. Click **Portal**
4. Click **Cloud Driver**



5. Copy the C4Z driver to My Documents\Control4\Drivers directory
6. Add the driver to your project
7. Click on the driver to view it's properties

Cloud Status	Please enter cloud project token below...
Project Information	(1) Total, (0) Licensed, (0) Trials, (1) Expired, (0) Updates.
Driver Version	1001
Project Token	<input type="text"/>
	Project token from driverCentral.io project portal
Driver Actions	<input type="button" value="v"/>
Debug Mode	Off <input type="button" value="v"/>

8. Type in the project token we took note of earlier
9. Click **Actions** tab
10. Click **Check Drivers**

Install Chowmain driver

1. Install the Chowmain driver
2. You will notice that the Activation Status reflects a Licence Activated state
3. Any driver that does not have a purchased licence will have a trial licence activated via the marketplace
Note that there is no way to reactivate the trial so please use wisely
4. If you do not then press the Check Drivers action in the driverCentral Cloud driver again

Activation Status	Update Available!!! License Activated
Driver Version	1002
Driver Information	Navigate to connections tab and make serial binding
Automatic Updates	Off <input type="button" value="v"/>