



Advanced Announcement Driver

Installation and Usage Guide

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Overview

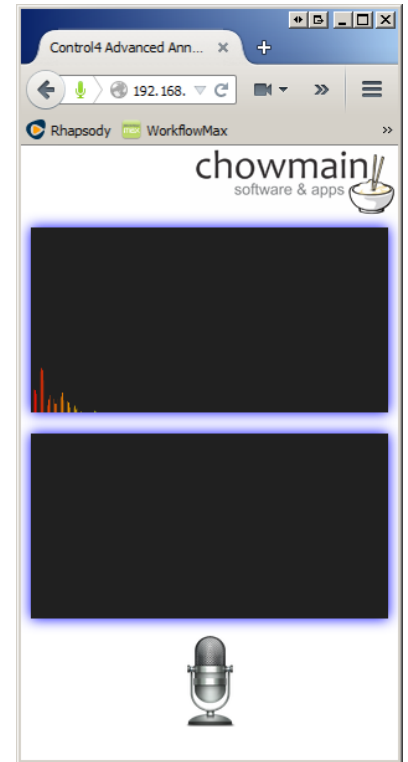
The Control4 Home Automation system has the ability to play audio announcements through the audio outputs on its controllers and speaker points. These announcements can play back any file encoded in a wav format. Traditionally these announcements have been used for doorbells and pre-recorded messages.

Chowmain's Advanced Announcements driver expands the announcement agent by providing integration with web based text to speech engines. This gives you dynamically generated voice notifications over your Control4 system.

It also allows you to record voice for instantaneous playback via its built in web server. This essentially makes a Control4 PA system without any additional hardware.

Features

- Dynamic text to speech generation
 - Currently supports 3 text to speech engines with multiple languages, voices, speed and pitch
 - SpeechUtil.com
 - VoiceRSS.org
 - iSpeech.org
 - Ability to speak the time, date
 - Ability to inject variables
- Playback any online wav file (can be used to get around 10mb control4 limit and integrate text to speech services not included in this driver).
- Control4 PA system functionality (record via a mic and playback through Control4)
 - Works on HTML 5 supported browsers
 - Tested working on
 - Windows – Firefox, Chrome
 - OSX – Chrome
 - Android – Firefox
 - Currently not supported
 - IOS



Usage Scenarios

This driver can be used for several different scenarios. Some examples are as below but the limit is really your imagination.

- Create a PA system in your home or business using a compatible web browser.
- Reading out the time and date to the blind. eg “the time currently is 10:00am”.
- Notifying you about how many times your phone has rung whilst you were out (requires additional 3rd party hardware). Eg “Whilst you were out you received 3 phone calls”.
- Notifying you about how many times your doorbell has been pressed whilst you were out (requires additional 3rd party hardware). Eg “Whilst you were out your doorbell was pressed twice”.
- Notifying you about the weather forecast for the day (requires additional 3rd party driver). Eg “The weather forecast for today is late showers with a minimum of 5 and maximum of 13 degrees”.
- Notifying you about the current energy usage (requires additional 3rd party driver). Eg “Your house is currently using 4.5 kilowatts hours”.

Change Log

Version #20170710 – 10-JUL-2017

- Migrated to driverCentral.

Version #20170303 - 03-MAR-2017

- Updated to reflect new chowmain domain

Version #20151102 - 02-NOV-2015

- Resolved issue with Announcement not saving if Debug mode set to log or print and log.

Version #20151023 - 23-OCT-2015

- Made improvements to licencing algorithm. Should resolve issues on OS 2.8 systems with intermittent internet connections.

Version #20150923 - 23-SEP-2015

- Fixed issue effecting OS 2.8.0 systems.

Version #20150818 - 18-AUG-2015

- Made change to URL timeout. Should resolve issues in OS 2.8.0

Version #20150818 - 18-AUG-2015

- Implemented Dealer Demo Licencing

Version #20150407 - 07-APR-2015

- Resolved issue where logs on 2.6 systems would fill out controller storage causing system stability issues. This only effects systems where people have set the debug logs to 'print and log' or 'log' and have forgotten about it over longer periods of time.

Version #20150316 - 16-MAR-2015

- Added Play Online File command. This helps get around the 10mb Control4 announcement agent restriction by downloading files only on demand only and also allow integrators to implement online or local text to speech services not included in this driver.

Version #20150217 - 17-FEB-2015

- Adjusted Height span of inbuilt webpage for voice recorder. Should fix viewing issues for non mobile devices.

Version #20150212 - 12-FEB-2015

- Fixed Issues effecting initialisation of driver.

Version #20141121 - 21-NOV-2014

- Implemented Licencing

Version #20141114 - 14-NOV-2014

- Changed driver type from c4i to c4z

Version #20140803 - 03-AUG-2014

- Major update. Added built in webserver to record from mic (tested on chrome and firefox browsers).

Version #20140610 - 10-JUN-2014

- Added Voice RSS API key property.

Version #20140512 - 12-MAY-2014

- Intial Version Released

Disclaimer & Important Information

This driver relies on 3rd party online text to speech generation services and as such Chowmain cannot guarantee the uptime or indefinite availability of these services. Chowmain will however to the best of its ability implement new API's if API's change or provide new services should these services discontinue.

Do not utilise this driver for any emergency announcement, safety systems or systems that cannot handle any form of down time from this driver.

This driver makes use of 3rd party audio outputs such as Control4's Announcement Agent and Extra Vegetables Sonos driver. As such we are bound by the limitations of those device's and software. Known limitations are listed below.

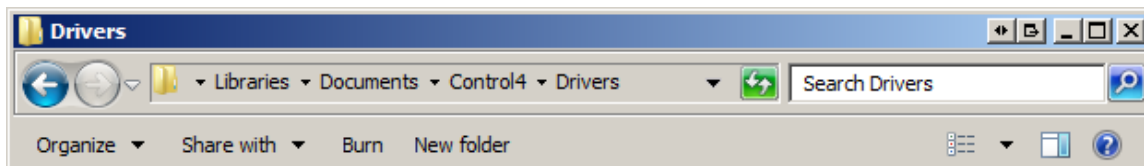
- Control4's Announcement Agent has a delay between action execution and actual playback. This will be somewhere between 5 and 10 seconds.
- Control4's Announcement Agent has a maximum playback length of 15 seconds. Keep all announcements under this time period.
- Control4's Announcement Agent has a cumulative announcement file size limitation of 10 MB.

Driver Installation

1. The driver you have downloaded will be in a zip file. Double click on this file to open it in your preferred zip program (WinZip, WinRar, etc.).



2. Extract the c4i file to the My Documents\Control4\Drivers directory. If you are using Windows 7 or 8 this will be extracted to the Libraries\Documents\Control4\Drivers directory.

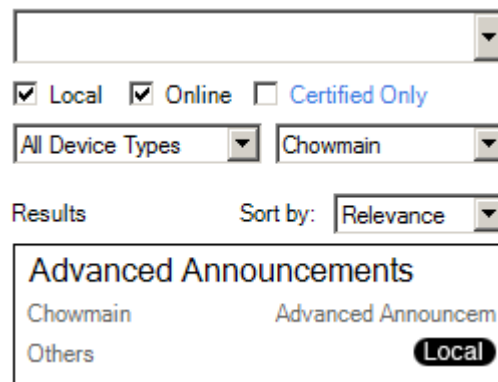


3. You are now ready to add and configure the driver via the Composer Pro software.

Adding the driver to your project

IMPORTANT – Before undertaking the installation of the driver please follow the licencing steps outlined at the end of this document.

1. Launch the Composer Pro application and connect to your project
2. In the '**System Design**' page select the '**Search**' tab on the right hand side.
3. Select '**Chowmain**' as the manufacturer.



4. Double click on the '**Advanced Announcements**' driver to add it to your project
5. Highlight the '**Advanced Announcements**' driver on the left hand side.
6. If you plan on utilising the iSpeech premium text to speech service enter in your iSpeech Developer's API key in otherwise you can leave it as the demo key if you wish to trial the service.

Note: Option 1 – Pay Per Use Developers Key required (<https://www.ispeech.org/developer/purchase/plans>)



7. If you plan on utilising the voicerss text to speech service enter in your voicerss API key in. This is required otherwise the voicerss service will not work.

Note: Voice RSS provides 350 free daily requests per key. We recommend that you register 1 key per customer. If your customer requires more than 350 requests per day then they will have to pay for a monthly subscription from Voice RSS (<http://voicerss.org/>).



Creating an announcement

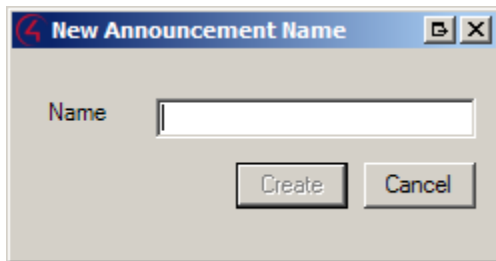
1. Click on the '**Agents**' Tab



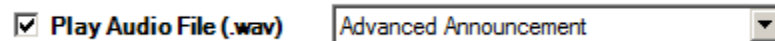
2. Click on the '**Announcement Agent**' (You may need to Add it in if you don't have it yet).
3. Create a New Announcement



4. Name this announcement '**Advanced Announcement**'.



5. Tick the box next to '**Play Audio File (.wav)**'



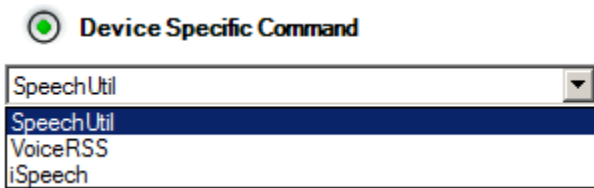
6. Select '**Advanced Announcement**' from the dropdown box.
7. Click on '**Add/Remove**' to add your desired rooms in.
8. Select the Rooms you want to add to the announcement.
9. Click on the '**OK**' button.
10. Tick the box next to '**Set Volume**' and set the default volume for the announcement.

Programming an advanced announcement with Control4's announcement agent

1. Click on the '**Programming**' Tab



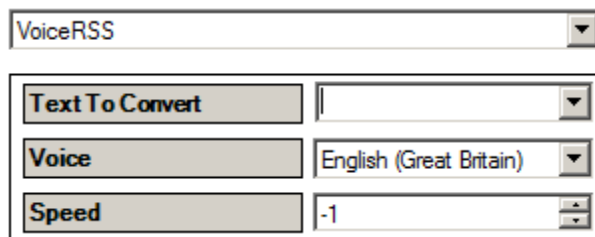
2. Select the event you want to fire the announcement in.
3. Under 'Device Actions' select the '**Advanced Announcement**' driver
4. Under the '**Advanced Announcement**' select radio button next to '**Device Specific Command**'
5. In the dropdown box select the voice you want to utilise.



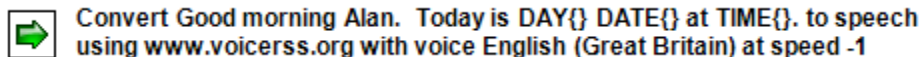
6. In the dropdown box labelled '**Text to Convert**' type in your announcement.

Note: If you want to insert variable values into the text please see the section of this document labelled 'How to use variables'. Day, Time and Date variables can also be used by inserting DAY{} TIME{} or DATE{} into the '**Text to Convert**' field at any point.

Some Text to Speech services also have different Voices, Speed and Pitch. It is recommended that you try to play around with these options to see what you like.

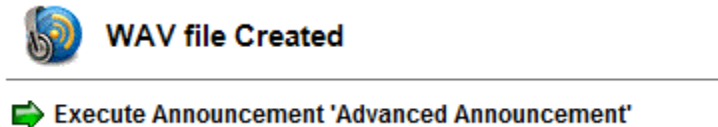


7. Drag and drop the green arrow into the script section.



8. On the events side of the screen select the '**Advanced Announcements**' driver.

9. Click on the event '**WAV file Created**'.
10. Under the actions side click on the '**Announcement**' action
11. Select '**Advanced Announcement**' from the Announcements list.
12. Drag the green arrow into the script section.



13. Congratulations you have created an Advanced Announcement.

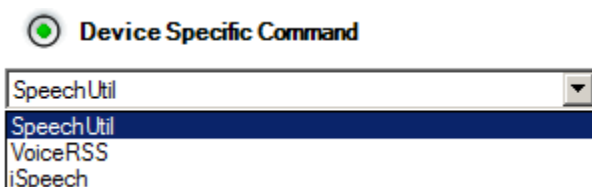
Programming an advanced announcement with the Extra Vegetables Sonos driver

Note this section assumes you have a fully functional Extra Vegetables Sonos driver set up in the system. There is no limit to the length of the announcement that can be played. Once the announcement has played the Sonos zone will automatically return to what it was previously playing at the previous volume level. This method works nicer than the Control4 Announcement Agent and is the preferred method if the hardware is available.

1. Click on the '**Programming**' Tab



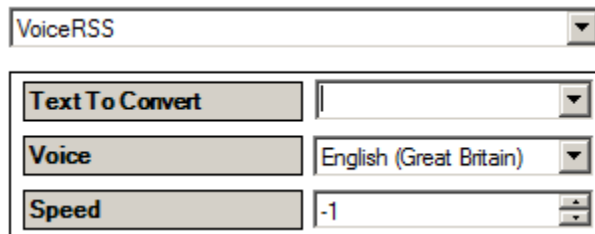
2. Select the event you want to fire the announcement in.
3. Under 'Device Actions' select the '**Advanced Announcement**' driver
4. Under the '**Advanced Announcement**' select radio button next to '**Device Specific Command**'
5. In the dropdown box select the voice you want to utilise.



6. In the dropdown box labelled '**Text to Convert**' type in your announcement.

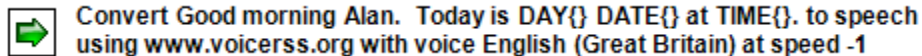
Note: If you want to insert variable values into the text please see the section of this document labelled 'How to use variables'. Day, Time and Date variables can also be used by inserting DAY{} TIME{} or DATE{} into the '**Text to Convert**' field at any point.

Some Text to Speech services also have different Voices, Speed and Pitch. It is recommended that you try to play around with these options to see what you like.

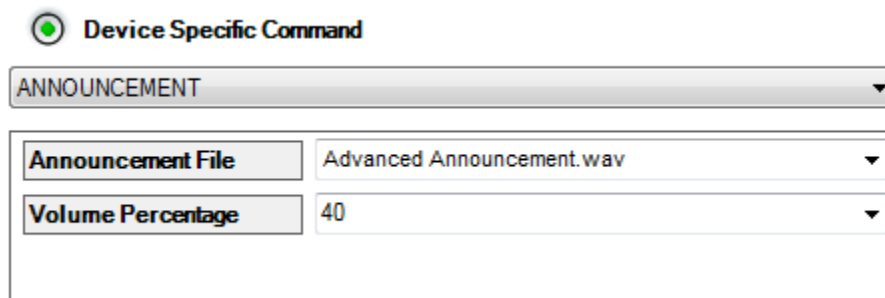


VoiceRSS	
Text To Convert	
Voice	English (Great Britain)
Speed	-1

7. Drag and drop the green arrow into the script section.



8. On the events side of the screen select the '**Advanced Announcements**' driver.
9. Click on the event '**WAV file Created**'.
10. On the events side of the screen select the '**Extra Vegetables Sonos**' driver.
11. Under the actions side click on the '**ANNOUNCEMENT**' action
12. In the Announcement File field type in '**Advanced Announcement.wav**' without the quotation marks
13. In the Volume Percentage field type in the required volume.



Device Specific Command	
ANNOUNCEMENT	
Announcement File	Advanced Announcement.wav
Volume Percentage	40

14. Drag the green arrow into the script section.
15. Congratulations you have created a Sonos Advanced Announcement.

Combining with the Chowmain weather drivers

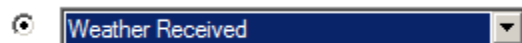
IMPORTANT:

- Ensure that you have followed the section labelled 'Creating an announcement' in this document.
- Also ensure that you have followed the section labelled 'Getting the weather information' in the forecast.io driver.
- Lastly make sure you have obtained the device id's and variable id's for the weather driver variables you want to utilise. See section labelled 'How to use variables' for instructions on how to obtain each variable.

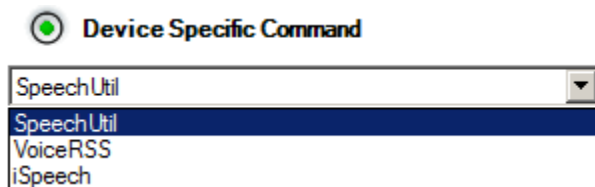
1. Click on the '**Programming**' Tab



2. On the events side of the screen select the '**Forecast.io weather**' driver.
3. Click on the event '**Weather Received**' (this event is fired when the data has been obtained).



4. Under 'Device Actions select the '**Advanced Announcement**' driver
5. Under the '**Advanced Announcement**' select radio button next to '**Device Specific Command**'
6. In the dropdown box select the voice you want to utilise.




- In the dropdown box labelled '**Text to Convert**' type in your announcement. This will be something similar to this.


Good Morning Alan. Today's weather forecast is PARAM{1572,1014} with a minimum of PARAM{1572,1016} and maximum of PARAM{1572,1017} degrees.


VoiceRSS	
Text To Convert	
Voice	English (Great Britain)
Speed	-1

- Drag and drop the green arrow into the script section.

 Convert Good Morning Alan. Today's weather forecast is PARAM{1572,1014} with a minimum of PARAM{1572,1016} and maximum of PARAM{1572,1017} degrees. to speech using www.voicerss.org with voice English (Great Britain) at speed 0

- On the events side of the screen select the '**Advanced Announcements**' driver.
- Click on the event '**WAV file Created**'.
- Under the actions side click on the '**Announcement**' event
- Select '**Advanced Announcement**' from the Announcements list.
- Drag the green arrow into the script section.

 **WAV file Created**

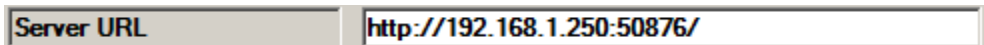
 Execute Announcement 'Advanced Announcement'

- Congratulations you have created a weather announcement.

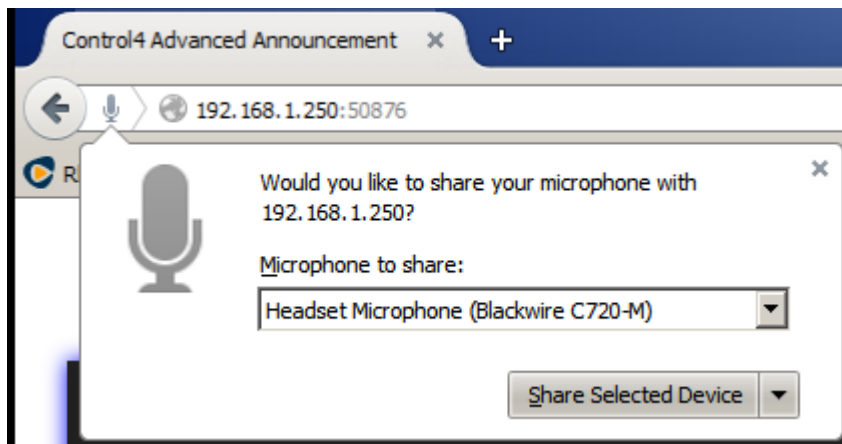
Using the microphone input functionality

Note this section assumes that you have already followed the section labeled programming an advanced announcement

1. Launch the Composer Pro application and connect to your project
2. In the '**System Design**' page highlight the '**Advanced Announcements**' driver on the left hand side.
3. Take note of the server URL in the driver's property page.

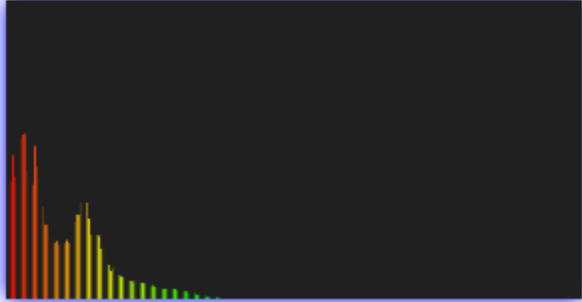


4. Type in this address into your web browser (We recommend either Mozilla firefox or Google chrome. In this example we use firefox)
5. Once the page loads it will prompt you to share your microphone.



6. Select the microphone you wish to use and click on the 'Share Selected Device' button.
7. This webpage is designed to be used in a portrait resolution. As such if you are using a landscape resolution please resize the webpage manually so that the microphone control is visible.

8. If you speak you will see the top window show coloured columns. This shows the wave form that the microphone is picking up. This means that the driver is working.



9. To record click on the microphone button.



10. The microphone icon will change to include a red circle to signify that it is recording.



11. To submit the recording press the microphone again. The microphone will revert back to its original icon. The bottom window will update to show the wave form of the audio recorded.



12. The audio should start playing through your Control4 or Sonos system in a few moments

How to use variables

1. In the programming tab create an action with the variable you want to get.

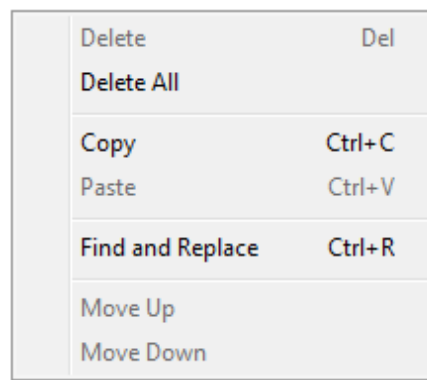


When the project New Project is loaded

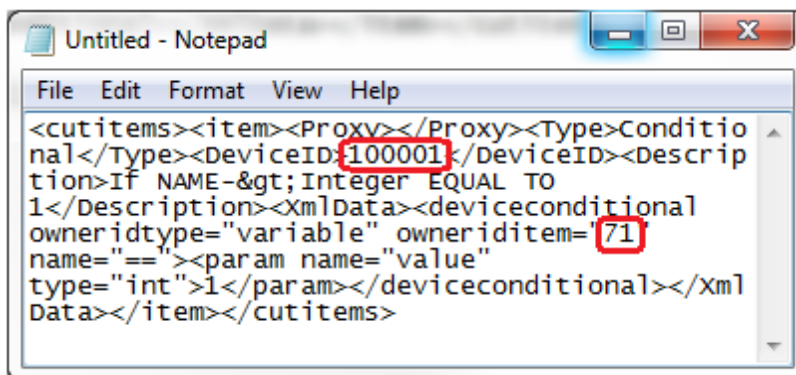


If Variables->Integer EQUAL TO 1

2. Right click and click on Copy



3. Open a text editor (notepad is available on all versions of windows) and paste the copied content.



4. Take note of the DeviceID and the owneriditem numbers (the above example is 100001 and 71)
5. Follow the steps in the first section of the document. To use the parameter type in PARAM{x,y} where x is the DeviceID and Y is the owneriditem (variable id).

EG. "The current lighting level is PARAM{100001,71} percent."

List of compatible 3rd party drivers / devices

We have listed below some of the more interesting 3rd party devices and drivers that are compatible with our Advanced Announcements driver. This is not a definitive list. You can pretty much import any Control4 Variable into the driver for use. As such the driver is extremely dynamic and versatile and as time goes by additional devices/drivers can be given a voice.

- **Axxess Doorbell** – Can provide temperature feedback
- **Axxess Motion Sensor** – Can provide temperature, Illumination and Humidity feedback
- **Card Access Contact Switch** – Can provide temperature feedback
- **Card Access Contact Relay** – Can provide temperature feedback.
- **Chowmain's eGuage EG3000 power monitor driver** – Can provide voltage, current and power feedback
- **Chowmain's forecast.io weather driver** – Can provide current and forecasted weather conditions.
- **Chowmain's OpenWeatherMap weather driver** – Can provide current and forecasted weather conditions.
- **Cinegration's Paradox driver** – Provides various security related variables
- **Control4 Thermostat** – Can provide temperature feedback
- **Energis's Home Energy Management Suite** – Can provide voltage, current and power feedback.
- **Extra Vegetable's WeatherHawk driver** – Can provide various weather related variables
- **Extra Vegetable's Cumulus driver** – Can provide various weather related variables
- **Extra Vegetable's Sonos driver** – Can output the advanced announcement audio

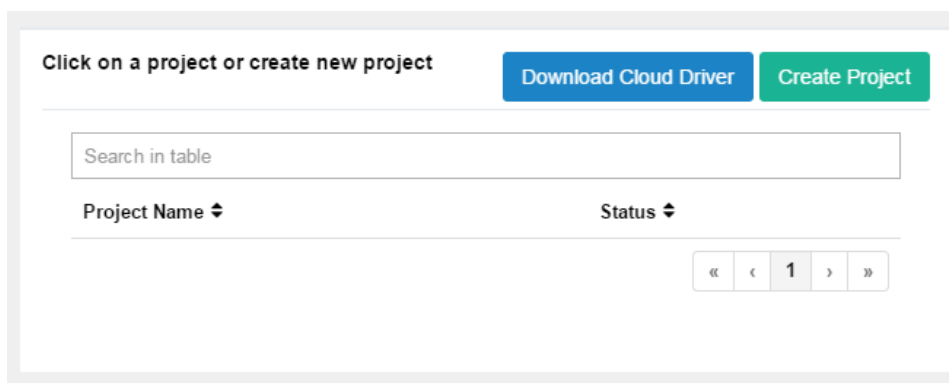
Licencing

Chowmain drivers require a valid licence to use the driver. Drivers can be purchased from our distributor [driverCentral](#) however all Chowmain drivers come with a 7 day trial. We recommend that prior to purchasing a driver that you test the driver out to ensure that it will work with your hardware and will meet your requirements. The licencing procedure is broken down into 4 steps. A summary of the steps are below along however we have also provided detailed steps if the summary is not sufficient.

1. Create your project on the driverCentral.io website (This will generate a specific token which you will use in the next step)
2. Download, install and activate the driverCentral cloud driver in your project (Only once per project. Use the token generated in step 1)
3. (Optional) To try a driver, simply download it and install it in your projectNavigate to the project portal
4. To purchase a driver:
 - a. On driverCentral, purchase a license and register it to your project
 - b. If the driver is not already installed in your project, download it and install it
 - c. If necessary, use the cloud driver's Action: "Check Drivers" to force licence download to the project.

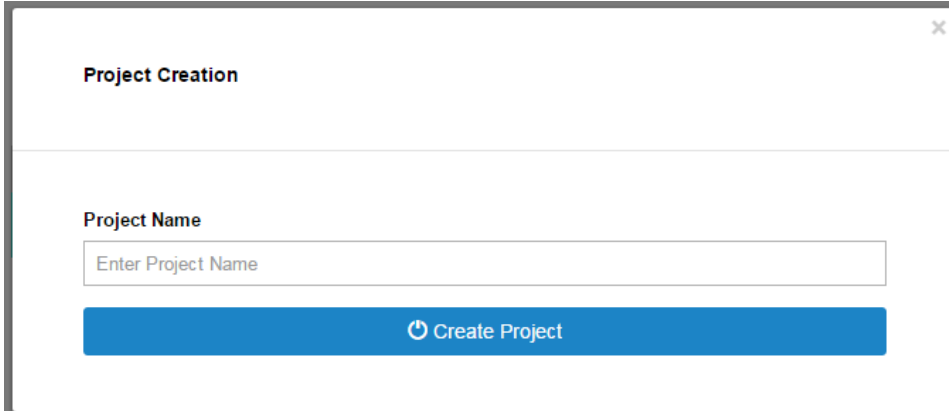
STEP 1 - Creating your project on driverCentral

1. Visit <http://www.drivercentral.io>
2. Log into your driver Central dealer account.
3. Visit the Project Portal
4. Click on Create Project



The screenshot shows the 'Project Portal' interface. At the top, there is a header with the text 'Click on a project or create new project' and two buttons: 'Download Cloud Driver' (blue) and 'Create Project' (green). Below the header is a search bar labeled 'Search in table'. Underneath the search bar are two columns: 'Project Name' and 'Status', each with a dropdown arrow. At the bottom right, there is a pagination control showing '« ‹ 1 › »', indicating the first page of results.

- It will prompt you for a project name. Type in a meaningful name for your customer's project



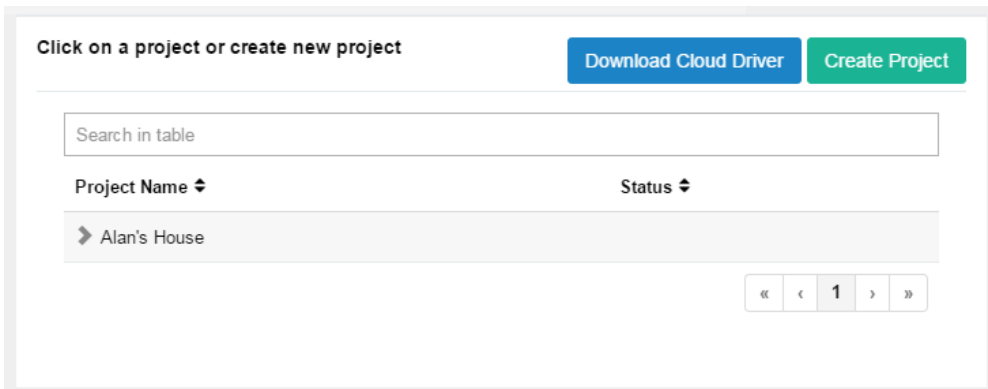
Project Creation

Project Name

Enter Project Name

Create Project

- Click on Create Project
- Click on the project we just created to expand the project



Click on a project or create new project

Download Cloud Driver Create Project

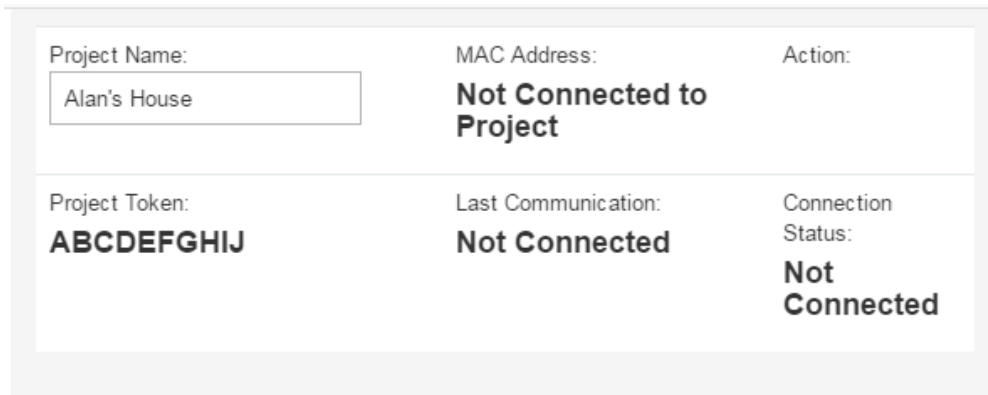
Search in table

Project Name Status

Alan's House

« < 1 > »

- Take note of the Project Token as this will be used in STEP 3 when we install the driverCentral cloud driver.



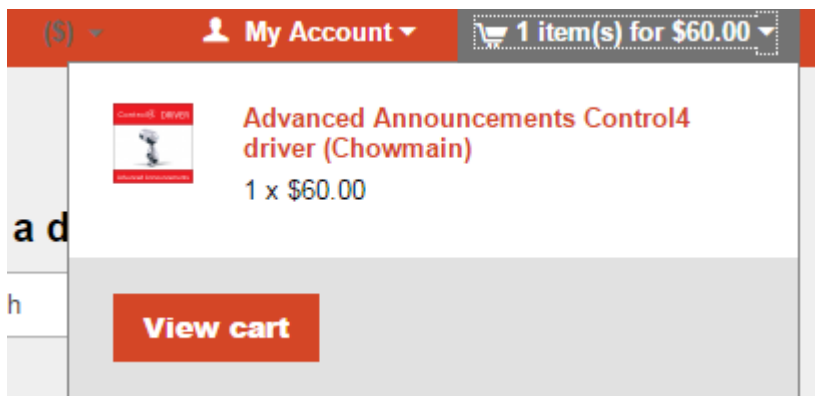
Project Name: Alan's House	MAC Address: Not Connected to Project	Action:
Project Token: ABCDEFGHIJ	Last Communication: Not Connected	Connection Status: Not Connected

STEP 2 –Purchase driver licence

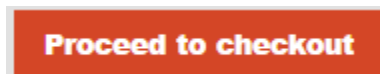
1. Visit <https://www.drivercentral.io/chowmain-ltd/> and find the product/driver you want to purchase a licence for.
2. Click on the Add to Cart button



3. Click on the Shopping Cart icon in the top right corner and click on View cart




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



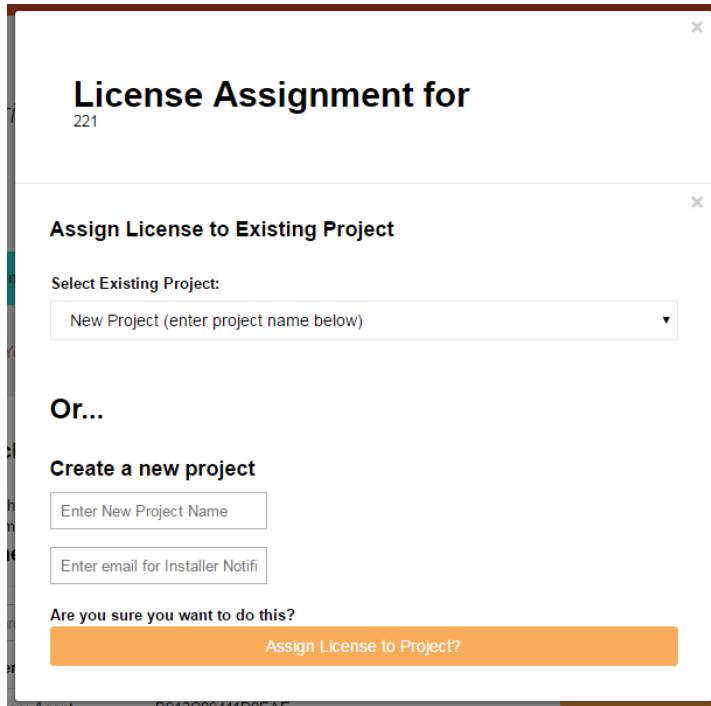
5. Follow the prompts and click on Submit my order



6. This will take you to PayPal for payment.
7. Pay via PayPal. It will automatically return to the marketplace when confirmed.
8. You will now be at a page where you can see your purchased licence.

License Name ↕	License Key ↕	Project Assigned ↕	Action ↕
			<button>Assign to Project</button>

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



License Assignment for
221

Assign License to Existing Project

Select Existing Project:
New Project (enter project name below) ▼

Or...

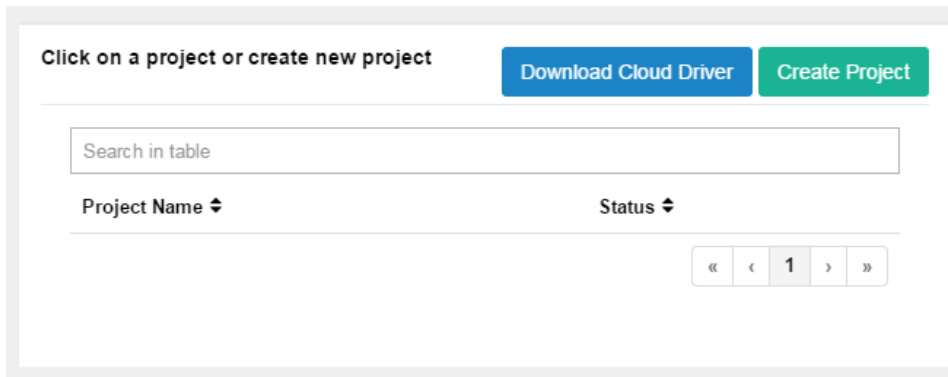
Create a new project

Enter New Project Name
Enter email for Installer Notifi

Are you sure you want to do this?
Assign License to Project?

STEP 3 – Install and activate the driverCentral cloud driver

- Visit <http://www.drivercentral.io>
- Log into your driver Central dealer account.
- Visit the Project Portal
- Click on Download Cloud Driver



Click on a project or create new project

Download Cloud Driver Create Project

Search in table

Project Name ⚙ Status ⚙

« ‹ 1 › »

- Copy the C4Z driver to My Documents\Control4\Drivers directory.
- Add the driver to your project.

- 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"/>

- Type in the project token we took note of in STEP 1.
- Click on the Actions tab
- Click on Check Drivers

STEP 4 – Install Chowmain driver

- Install the Chowmain driver
- You will notice that the Activation Status reflects a Licence Activated state.
- 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"/>