

Optoma Universal Projector Installation and Usage Guide



Date: Monday, 28 June 2021
Authors: Alan Chow

Contents

Overview	3
Usage Scenarios	4
Features	5
Change Log	7
Version 20210517.....	7
Adding the driver to your project	8
Adding the driver to your project	9
Device Commands	12
Device Feedback	14
Events.....	14
Variables.....	14
FAQ.....	15
Why is my projector not responding?.....	15
What projectors does this driver work on?.....	15
Licensing	16
Creating a Project on Driver Central	16
Purchasing a Driver Licence	17
Install the driverCentral cloud driver	18
Install Chowmain driver	19

Overview

Optoma provides a universal API for their range of projectors for both IP and RS232 based controls.

The Chowmain Optoma universal projector driver for Control4 provides seamless integration of all Optoma projectors via this API and allows you to control all the standard features you would expect with a projector and more.

Usage Scenarios

- The driver has the ability to automatically send notifications on warnings and errors. This makes it easy for integrators to proactively service their customers when the projector is due for a bulb change or requires immediate attention.
- The driver has the ability to display custom onscreen messages for up to 30 characters. This is useful for notifying the user during movie playback of an event without disrupting the movie.
- On projectors that have lens memory you can recall these lens memory positions via the driver's programming commands. This is extremely useful if you combine it with something like the Chowmain Kaleidescape driver which can provide you with the aspect ratio feedback of the movie. Automate lens positions to suit the movie you are watching to ensure that 235 movies fit the screen perfectly without manual intervention!
- Have the screen blank or lens closed until certain conditions, like theatre curtains being fully opened, are met
- Custom button programming to change the 3D sync setting of the projector or have the projector automatically set a 3D sync option depending on the source
- Dynamically set the color temperature and picture modes depending on the input source

Features

- Bi-directional control and feedback
- Both RS232 and IP based integration
- Lamp hour feedback
- Automatic email and push notification on errors (requires 4sight)
- Audio Controls (Volume Up, Volume Down and Mute)
- Power management
- Source selection
 - HDMI 1
 - HDMI 2
 - HDMI 3
 - S-Video
 - Component
 - Video
 - DVI-A
 - DVI-D
 - VGA 1
 - VGA 2
 - USB Display
 - Network Display
 - BNC
 - HDBaseT
 - Display Port
 - 3G-SDI
 - Wireless
 - Multimedia
- Events
 - Standby Mode
 - Warming Up
 - Cooling Down
 - Out of Range
 - Light Source Fail (LED Fail)
 - Thermal Switch Error
 - Fan Lock
 - Over Temperature
 - Light Source Hours Running Out
 - Format Board Power On Fail
 - Color Wheel Unexpected Stock
 - Over Temperature
- Commands
 - 12V Trigger

- 3D Mode
- 3D-2D
- 2D-3D
- 3D Format
- 3D Invert Sync
- Aspect Ratio
- Display Mode
- Enable HDR / HLG
- HDR Picture Mode
- HLG Picture Mode
- Extreme Black
- Dynamic Black
- Brightness Mode
- Pure Engine Ultra Detail Mode
- Pure Engine Pure Contrast Mode
- Pure Engine Pure Color Mode
- Pure Engine Pure Motion Mode
- USB Power
- AV Mute
- Freeze
- Image AI
- PC Mode
- Super Wide
- Display Message on OSD
- Clear OSD Message
- Lens Memory
- Lens Shutter

Change Log

Version 20210517

Initial release

Adding the driver to your project

IMPORTANT – Before undertaking the installation of the driver please follow the licensing 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. Type in 'Optoma Universal Projector' in the search field

Optoma Universal Projector

Optoma Universal Projector

Manufacturer

4. If you have multiple units, repeat this process for each unit
5. Highlight the 'Optoma Universal Projector' driver on the left hand side.
6. Enter in the IP address and the TCP port address under the Properties tab

Connected to Network	True
IP Address	172.16.16.150
TCP Port	9004

7. You have now completed the driver installation

Adding the driver to your project

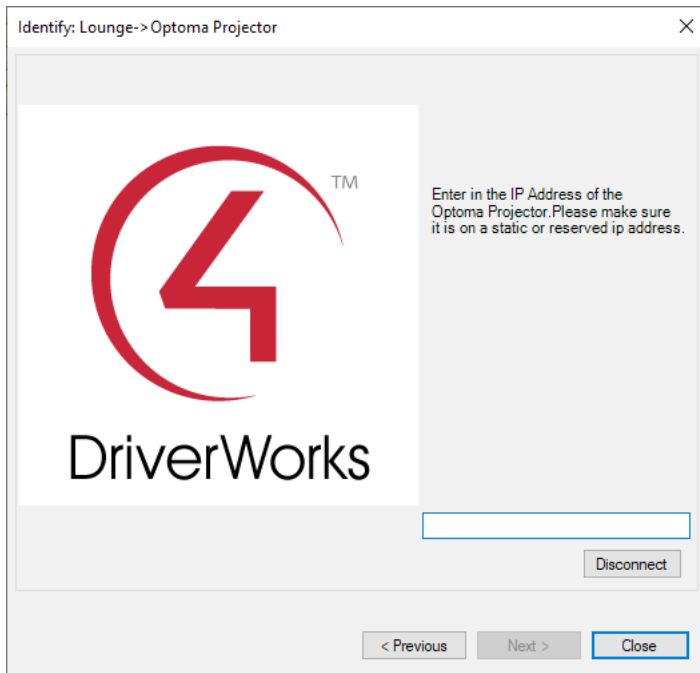
1. Launch the **Composer Pro** and connect to your project
2. In the **System Design** page select the **Search** tab on the right hand side
3. Search for **Optoma**
4. Double click the **Optoma Universal Projector** driver.
5. Click on the **Connections** tab and select the **Optoma Universal Projector** driver.
6. Bind appropriate AV inputs and outputs for the projector

Name	Type	Connection	Input/Output	Connected To
Audio/Video Inputs				
HDMI 1 / MHL	Video	HDMI	Input	
HDMI 2 / MHL	Video	HDMI	Input	
HDMI 3	Video	HDMI	Input	
S-Video	Video	SVIDEO	Input	
Component Video	Video	COMPONENT	Input	
Composite Video	Video	COMPOSITE	Input	
DVI-A	Video	DVI	Input	
DVI-D	Video	DVI	Input	
VGA 1	Video	VGA	Input	
VGA 2	Video	VGA	Input	
Display Port	Video	HDMI	Input	
Network Display	Video	HDMI	Input	
Network Display	Video	USB	Input	
BNC	Video	COMPOSITE	Input	
HDbaseT	Video	HDMI	Input	
USB Display	Video	HDMI	Input	
3G-SDI	Video	HDMI	Input	
Wireless Display	Video	HDMI	Input	
Multimedia	Video	HDMI	Input	
Audio/Video Outputs				
Audio Out	Audio	STEREO	Output	
Audio Out	Audio	OPTICAL	Output	

7. If you are using serial please bind the serial port.

Control Inputs				
Serial 232	Control	RS_232	Input	EA-1->SERIAL 1

8. If you are using network click on the '**Network tab**', double click on the **Optoma Universal Projector driver** and enter in the **IP address**. Please make sure that the IP address is a static or reserved IP address.

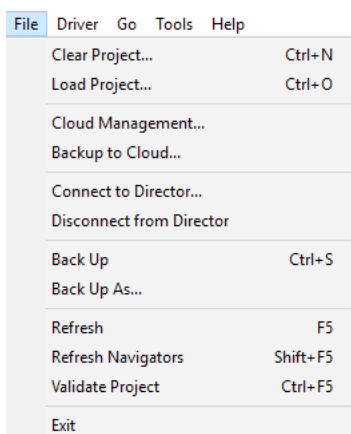


9. Select System Design

10. Click on the **Optoma Universal Projector** driver. The description below details the properties functionality.

- **Power On Delay (seconds)** - The amount of time the driver needs to wait after a power on command is issued before subsequent commands.
- **Power Off Delay (seconds)** - The amount of time the driver needs to wait after a power off command is issued before subsequent commands.
- **Off Proxy Notification** - When should the driver fire the Off event in programming. Options are Cooling Down or Standby.
- **Automatic Notifications (4Sight Required)** - The projector will provide unsolicited feedback for certain errors. This option will notify you via push, email or both. This functionality relies on a valid 4sight licence. Errors are listed later in the events section of this document.
- **Email Address** - This is the email address for the automatic notifications.

11. Select **File** then **Refresh Navigators**



Congratulations you have set up the projector

Device Commands

The Optoma driver has the following device commands. Note that availability of commands is dependent on the projector itself so please refer to the Projector's manual to verify that the option is on that particular model.

Command Name	Command Parameters
12v Trigger	STATE- ON / OFF
3D Mode	MODE- ON, OFF, DLP-LINK, IR/VESA
3D-2D	MODE- 3D, L, R
2D-3D	MODE- OFF, 1, 2, 3
3D Format	FORMAT - AUTO, SIDE BY SIDE, TOP AND BOTTOM, FRAME SEQUENTIAL, FRAME PACKING, OFF
3D Invert Sync	MODE- ON / OFF
Aspect Ratio	RATIO- 4:3, 16:9, 16:10, LBX, SUPERWIDE, NATIVE, AUTO, AUTO235, AUTO235_SUBTITLE, AUTO3D
Display Mode	MODE- PRESENTATION, BRIGHT, CINEMA, FILM, HDR, HLG, HDR SIM, VIVID, GAME, SRGB, REFERENCE, DICOM SIM, USER, 3D, USER (3D), USER (HDR), USER (HLG), ISF DAY, ISF NIGHT, ISF 3D, 2D HIGH SPEED, BLENDING, SPORT, SUPER BRIGHT
Enable HDR / HLG	MODE- OFF / AUTO
HDR Picture Mode	MODE- BRIGHT, STANDARD, FILM, DETAIL, SMPTE2084
HLG Picture Mode	MODE- BRIGHT, STANDARD, FILM, DETAIL
Extreme Black	MODE- ON / OFF
Dynamic Black	MODE- ON / OFF
Brightness Mode	MODE- BRIGHT, ECO, DYNAMIC, ECO+, CONSTANT POWER, CONSTANT LUMINACE
Pure Engine Ultra Detail Mode	MODE- OFF, ON, HD+, USER, 1, 2, 3
Pure Engine Pure Contrast Mode	MODE- ON / OFF
Pure Engine Pure Color Mode	MODE- OFF, 1, 2, 3, 4, 5
Pure Engine Pure	MODE- OFF, 1, 2, 3

Command
Name

Command Parameters

Motion Mode

USB Power MODE - ON, OFF, AUTO

AV Mute MODE - ON / OFF

Freeze MODE - ON / OFF

Image AI MODE - ON / OFF

PC Mode MODE - ON / OFF

Super Wide MODE - OFF, ON (16:9), ON (2.35:1), AUTO

Display Message
on OSD MESSAGE - String limited to 30 characters

Close OSD Message N/A

Lens Memory POSITION - 1 to 10

Lens Shutter MODE - ON / OFF

Device Feedback

Events

The Optoma driver has the following events. Note that availability of events is dependent on the projector itself so please refer to the Projector's manual to verify that the option is on that particular model.

- Standby Mode
- Warming Up
- Cooling Down
- Out of Range
- Light Source Fail (LED Fail)
- Thermal Switch Error
- Fan Lock
- Over Temperature
- Light Source Hours Running Out
- Format Board Power On Fail
- Color Wheel Unexpected Stop
- Over Temperature
- Fan 1 Lock
- Fan 2 Lock
- Fan 3 Lock
- Fan 4 Lock
- Fan 5 Lock
- LAN fail then restart
- LD lower than 60 percent
- LD NTC (1) Over Temperature
- LD NTC (2) Over Temperature
- High Ambient Temperature
- Cover Open

Variables

The below variables return the current value/state of the variable in question

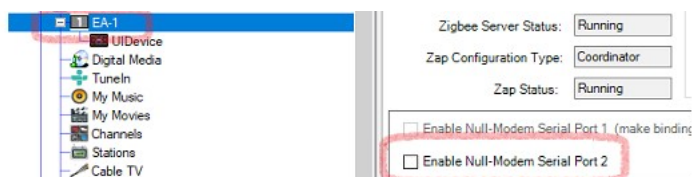
This can be useful for conditional logic

- Lamp Hours

FAQ

Why is my projector not responding?

- Confirm that you are using a NULL modem cable
- Do not use a gender-bender adapter
- You can also try, "Enable Null-Modem Serial Port" which is in the Advanced Properties of the Controller



What projectors does this driver work on?

- This driver utilises Optoma's universal API. It is standard across all models for both IP and serial communications.

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:

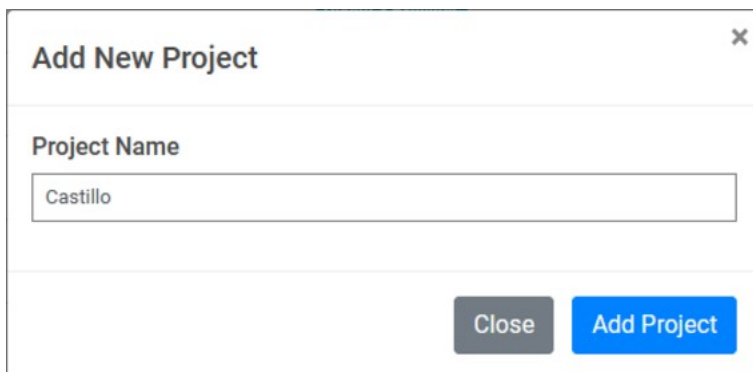
1) On driverCentral, purchase a license and register it to your project

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

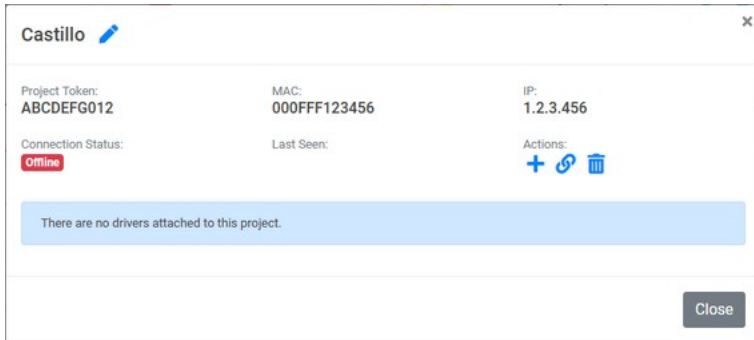
1. Visit <http://www.drivercentral.io>
2. Log into your driver Central dealer account
3. Click **Portal**
4. Click **New Project**
5. Enter the project name



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

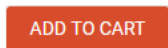


9. Click **Close**

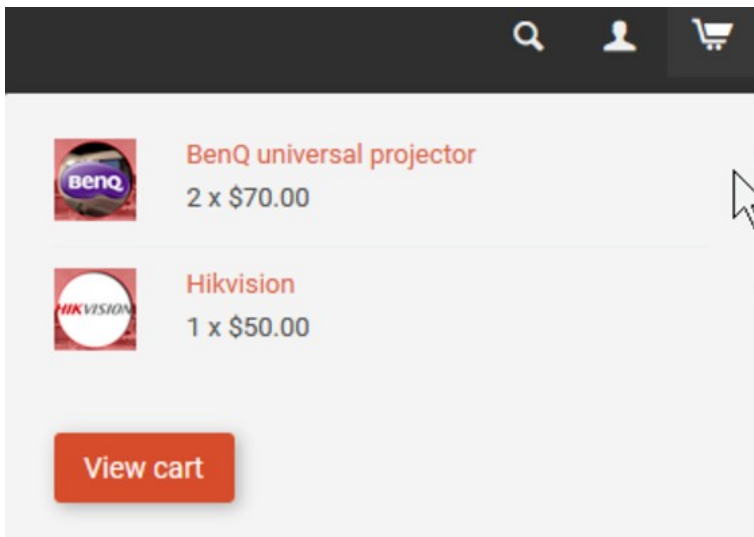
Purchasing a Driver Licence

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

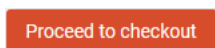
2. Click on **Add to Cart**



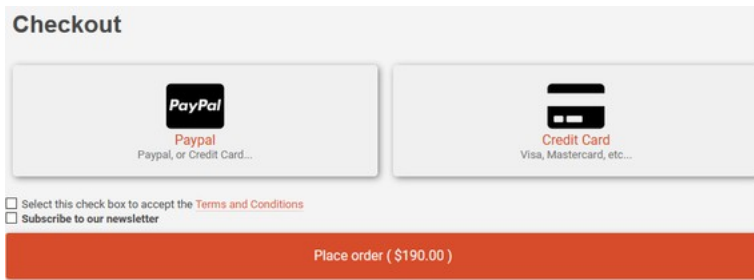
3. Now click the shopping cart icon (top right) and click **View cart**



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



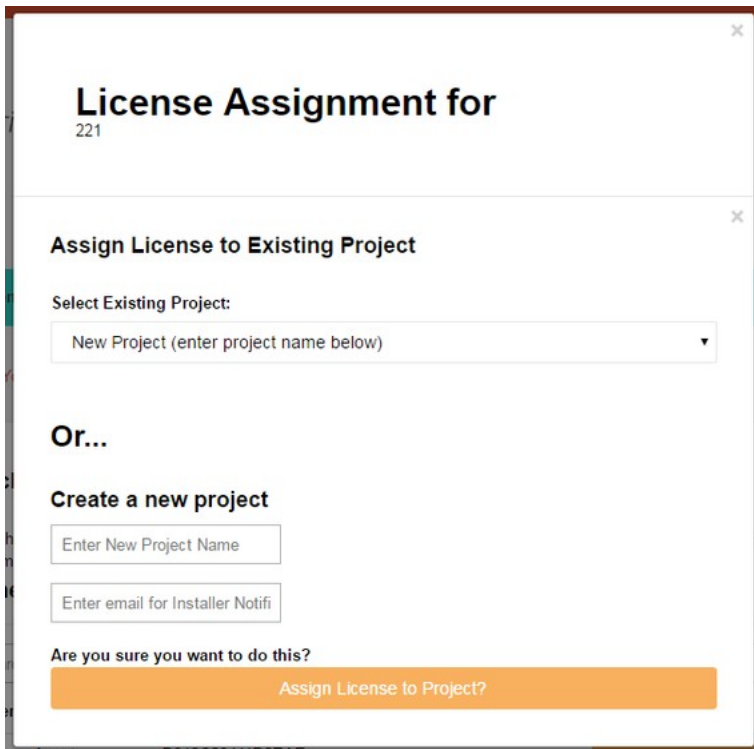
5. Choose your payment option, provide the relevant details and click **Place order**



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

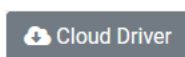


7. From here assign the licence to the project we created or if you did not follow that step create a new project



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"/>