

Sony Universal Projector Installation and Usage Guide

SONY

Version: 20220616
Date: Friday, June 17, 2022
Authors: Justin Bateson

chowmainsoft

Contents

Overview.....	3
Features.....	4
Change Log.....	7
Version 20220616.....	7
Setup.....	8
Projector.....	8
Driver.....	8
Programming.....	9
Variables.....	9
FAQ.....	19
Which projectors are supported?.....	19
What cool things can i do with this driver?.....	19
Does this driver support SDDP?.....	19
Troubleshooting.....	20
Why do Variables contain unexpected data and not an actual value?.....	20
Serial Communication isn't working why?.....	20
Command responses are increasingly delayed.....	20
Licensing.....	21
Creating a Project on Driver Central.....	21
Purchasing a Driver Licence.....	22
Install the driverCentral cloud driver.....	23
Install Chowmain driver.....	24

Overview

Sony provide a universal protocol to control their range of projectors over IP (called PJTALK). The Sony Universal Projector driver implements Sony's projector API to provide control and status of all available commands.

This is a must have driver for any Sony enthusiast. With this driver you can adjust lamp zoom, aspect ratio and other projection modes programatically to create the perfect cinema experience. You can also pro-actively service your customers via the automatic 4sight notifications on lamp hours.

Features

Automatically sends an email when the lamp hour count reaches a set limit.

Manually change the following SDCP settings:

- TCP Port Number
- Community Name

Exposes the current state for each of the items listed below, in Variables

Provides the following Programming commands to GET and also SET the state:

- ADVANCED IRIS
- ASPECT
- BLANKING
- BRIGHTNESS
- CALIB PRESET
- CLEAR WHITE
- COLOR
- COLOR CORRECTION
- COLOR CORRECTION BLUE BRIGHTNESS
- COLOR CORRECTION BLUE COLOR
- COLOR CORRECTION BLUE HUE
- COLOR CORRECTION CYAN BRIGHTNESS
- COLOR CORRECTION CYAN COLOR
- COLOR CORRECTION CYAN HUE
- COLOR CORRECTION GREEN BRIGHTNESS
- COLOR CORRECTION GREEN COLOR
- COLOR CORRECTION GREEN HUE
- COLOR CORRECTION MAGENTA BRIGHTNESS
- COLOR CORRECTION MAGENTA COLOR
- COLOR CORRECTION MAGENTA HUE
- COLOR CORRECTION RED BRIGHTNESS
- COLOR CORRECTION RED COLOR
- COLOR CORRECTION RED HUE
- COLOR CORRECTION YELLOW BRIGHTNESS
- COLOR CORRECTION YELLOW COLOR
- COLOR CORRECTION YELLOW HUE
- COLOR SPACE
- COLOR SPACE CUSTOMBLUE CYAN RED
- COLOR SPACE CUSTOMBLUE GREEN MAGENTA
- COLOR SPACE CUSTOMGREEN CYAN RED
- COLOR SPACE CUSTOMGREEN GREEN MAGENTA

- COLOR SPACE CUSTOMRED CYAN RED
- COLOR SPACE CUSTOMRED GREEN MAGENTA
- COLOR TEMPERATURE
- CONTRAST
- CONTRAST ENHANCER
- ERROR 1 STATUS
- ERROR 2 STATUS
- FILM MODE
- GAMMA CORRECTION
- HDMI1 DYNAMIC RANGE
- HDMI2 DYNAMIC RANGE
- HDR
- HIGH ALTITUDE MODE
- HUE
- INPUT
- INPUT LAG REDUCTION
- IRIS BRIGHTNESS
- LAMP CONTROL
- LAMP HOURS
- LENS FOCUS
- LENS SHIFT
- LENS ZOOM
- MAC
- MODEL NAME
- MOTIONFLOW
- MPEG NR
- NAVIGATE
 - Up
 - Down
 - Left
 - Right
 - Enter
- NR
- PANEL ALIGNMENT
- PICTURE MUTING
- PICTURE POSITION
- POWER STATUS
- REALITY CREATION
- REALITY CREATION DATABASE
- RESOLUTION
- SELECT 2D 3D DISPLAY
- SELECT 3D BRIGHTNESS

- SELECT 3D DEPTH
- SELECT 3D FORMAT
- SELECT 3D SIMULATED EFFECT
- SETTINGS LOCK
- SHARPNESS
- SMOOTH GRADATION
- TEST PATTERN
- TRIGGER SELECT 1
- TRIGGER SELECT 2
- USER BIAS BLUE
- USER BIAS GREEN
- USER BIAS RED
- USER GAIN BLUE
- USER GAIN GREEN
- USER GAIN RED
- XVCOLOR

Change Log

Version 20220616

Initial release

Setup

Projector

In the projector OSD menu, you need to make sure the following is set:

- **SETUP > Network Management = ON**
- **SETUP > POWER SAVING = OFF**

Driver

1. Add the driver to the project by searching for **Sony Universal Projector Driver** in the System **Design > Search** tab on the right of the window
2. Work down through the **Properties** tab fields and update them one after the other:
 - **IP Address** This is the projector's address
 - **Port** Only change this if you have modified the port in the projector
 - **Community** Only change this if you have modified the community in the projector
 - **Enable Send Notification on LAMP HOURS Limit** Setting this to TRUE will send a push notification when the *Lamp Hours* count reaches or exceed the *LAMP HOURS Limit (hours)* limit
 - **LAMP HOURS Limit (hours)** Set this value to trigger a push notification when the *Lamp Hours* reaches or exceeds this value
 - **Lamp Hours** This is the lamp hour count reported by the projector
 - **Command Delay Milliseconds** Determines how quickly to send commands to the projector
 - **Power On Delay Seconds** Stops the driver from sending commands to the projector for a certain period after sending the Power On command
 - **NetworkKeepAlive Interval Seconds** Sends a command to the projector to keep the connection alive
 - **Model Name** This is the model name reported by the projector
 - **MAC Address** This is the MAC address reported by the projector

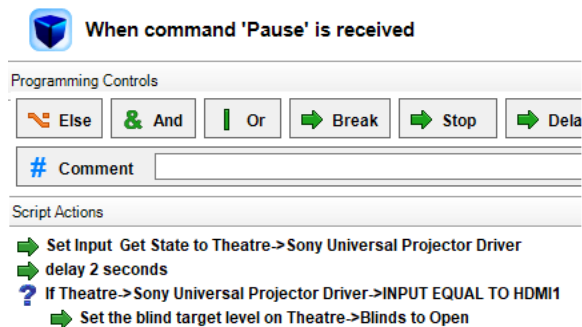
Programming

Variables

Variables are updated once every hour.

It is recommended to do a **Get State** for the relevant command, including a delay before programming against the value.

For example, if you require the blinds in the theatre to open when you press Pause, but only if you're using HDMI1, you would do the following:



Below is a list of all the variables available in the driver and their expected contents.

If the value isn't available the variable will contain **NOT_APPLICABLE_ITEM**

NOTE: This is not an error with the driver

For example, if the projector is using **Color Space BT.709** then you cannot set a **Color Space CustomBlue Cyan Red** value.

Advanced Iris

- OFF
- FULL
- LIMITED

Aspect

- NORMAL
- V_STRETCH
- 1.85:1_ZOOM
- 2.35:1_ZOOM
- STRETCH
- SQUEEZE

Blanking

- ON
- OFF

Brightness

- 0 to 100

Calib Preset

- CINEMA_FILM_1
- CINEMA_FILM_2
- REF
- TV
- PHOTO
- GAME
- BRT_CINE
- BRT_TV
- USER

Clear White

- OFF
- LOW
- HIGH

Color

- 0 to 100

Color Correction

- ON
- OFF

Color Correction Blue Brightness

- -30 to +30

Color Correction Blue Color

- -50 to +50

Color Correction Blue Hue

- -50 to +50

Color Correction Cyan Brightness

- -50 to +50

Color Correction Cyan Color

- -50 to +50

Color Correction Cyan Hue

- -50 to +50

Color Correction Green Brightness

- -30 to +30

Color Correction Green Color

- -50 to +50

Color Correction Green Hue

- -50 to +50

Color Correction Magenta Brightness

- -50 to +50

Color Correction Magenta Color

- -50 to +50

Color Correction Magenta Hue

- -50 to +50

Color Correction Red Brightness

- -30 to +30

Color Correction Red Color

- -50 to +50

Color Correction Red Hue

- -50 to +50

Color Correction Yellow Brightness

- -30 to +30

Color Correction Yellow Color

- -50 to +50

Color Correction Yellow Hue

- -50 to +50

Color Space

- BT.709
- COLOR_SPACE1
- COLOR_SPACE2
- COLOR_SPACE3
- CUSTOM

Color Space Customblue Cyan Red

- -50 to +50

Color Space Customblue Green Magenta

- -50 to +50

Color Space Customgreen Cyan Red

- -50 to +50

Color Space Customgreen Green Magenta

- -50 to +50

Color Space Customred Cyan Red

- -50 to +50

Color Space Customred Green Magenta

- -50 to +50

Color Temperature

- D93
- D75
- D65
- CUSTOM1
- CUSTOM2
- CUSTOM3
- CUSTOM4
- CUSTOM5
- D55

Contrast

- 0 to 100

Contrast Enhancer

- OFF
- LOW
- MIDDLE
- HIGH

Film Mode

- OFF
- AUTO

Gamma Correction

- OFF
- 1.8
- 2.0
- 2.1
- 2.2
- 2.4
- 2.6
- GAMMA7
- GAMMA8
- GAMMA9
- GAMMA10

Hdmi1 Dynamic Range

- AUTO
- LIMIT
- FULL

Hdmi2 Dynamic Range

- AUTO
- LIMIT
- FULL

HDR

- OFF
- ON

- AUTO

High Altitude Mode

- ON
- OFF

Hue

- 0 to 100

Input

- HDMI1
- HDMI2

Input Lag Reduction

- ON
- OFF

Iris Brightness

- ON
- OFF

Lamp Control

- LOW
- HIGH

Lens Focus

- FAR
- NEAR

Lens Shift

- UP
- DOWN
- LEFT
- RIGHT

Lens Zoom

- LARGE
- SMALL

Motionflow

- OFF
- SMOOTH_HIGH
- SMOOTH_LOW
- IMPULSE
- COMBINATION
- TRUE_CINEMA

Mpeg Nr

- OFF
- LOW
- MIDDLE
- HIGH
- AUTO

Navigate

- RIGHT
- LEFT
- UP
- DOWN
- ENTER

NR

- OFF
- LOW
- MIDDLE
- HIGH
- AUTO

Panel Alignment

- ON
- OFF

Picture Muting

- ON
- OFF

Picture Position

- 1.85:1

- 2.35:1
- CUSTOM1
- CUSTOM2
- CUSTOM3

Power Status

- OFF
- ON

Reality Creation

- OFF
- ON

Reality Creation Database

- MASTERED_IN_4K
- NORMAL

Resolution

- ON
- OFF

SHARPNESS

- 0 to 100

Select 2d 3d Display

- AUTO
- 3D
- 2D

Select 3D Depth

- -2 to +2

Select 3D Depth

- -2 to 2

Select 3d Brightness

- HIGH
- STANDARD

Select 3d Format

- SIMULATED_3D
- SIDE-BY-SIDE
- OVER-UNDER

Select 3d Simulated Effect

- HIGH
- MIDDLE
- LOW

Settings Lock

- OFF
- LEVEL_A
- LEVEL_B

Sharpness

- 0 to +100

Smooth Gradation

- OFF
- LOW
- MIDDLE
- HIGH

Test Pattern

- ON
- OFF

Trigger Select 1

- OFF
- POWER
- V_STRETCH
- 2.35:1_ZOOM

Trigger Select 2

- OFF
- POWER
- V_STRETCH
- 2.35:1_ZOOM

User Bias Blue

- -30 to +30

User Bias Green

- -30 to +30

User Bias Red

- -30 to +30

User Gain Blue

- -30 to +30

User Gain Green

- -30 to +30

User Gain Red

- -30 to +30

Xvcolor

- ON
- OFF

FAQ

Which projectors are supported?

We created this driver as a lot of integrators mistook PJLINK for PJTALK compatibility. Most Sony projectors don't work with PJLINK so we created this driver to help integrators provide the perfect Sony projector integration. This driver works with all IP controlled Sony projectors that support PJTALK protocol.

What cool things can I do with this driver?

- Provide IP control over Sony projectors.
- Proactively service customers via automatic push notification alerts based on preset lamp hour limits (requires 4sight)
- Adjust lamp zoom, aspect ratio and other projection modes programmatically.

Does this driver support SDDP?

This driver is a universal driver and does not use SDDP. You will need to enter the IP address of the projector in for control.

Troubleshooting

Why do Variables contain unexpected data and not an actual value?

Unexpected data like:

- NOT_APPLICABLE_ITEM
- ITEM_ERROR INVALID_ITEM_REQUEST
- INVALID_LENGTH
- INVALID_DATA
- SHORT_DATA

Every hour, the driver requests the states for all variables, from the projector. If the projector is in standby mode for example, it will respond with NOT_APPLICABLE_ITEM for settings where the state is unknown.

For example the color temperature isn't known when the projector is off.

You can programatically probe the projector for each state using the Value 'Get State'.

NOTE: This is not an error with the driver

Serial Communication isn't working why?

The requirements for rs232 serial communication with Sony projectors is as follows:

- Null Modem cable
- No longer than 15 meters in length
- full duplex
- No flow control
- Baud rate 38400bps

Command responses are increasingly delayed

Based on the **NetworkKeepAlive Interval Seconds**, the driver will send 5 commands to projector to check its state.

If you have set this field to 1 second, for example, and the field **Command Delay Milliseconds** is set to 250ms, then the driver is queuing more commands per second, than it can send.

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:

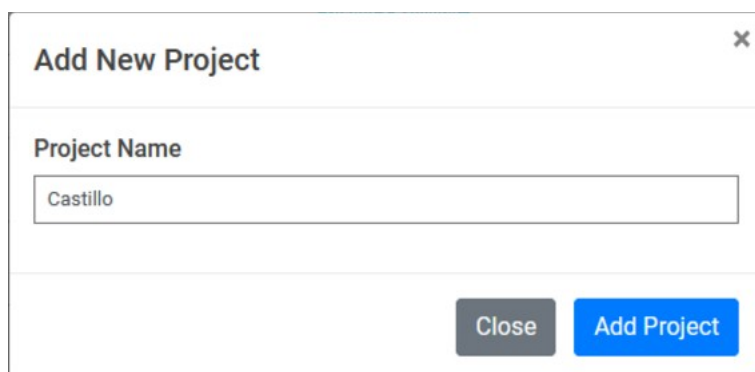
1) On driverCentral, purchase a license and register it to your project

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 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

- 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

Connection Status:
Offline

Last Seen:

Actions:
  

There are no drivers attached to this project.

Close

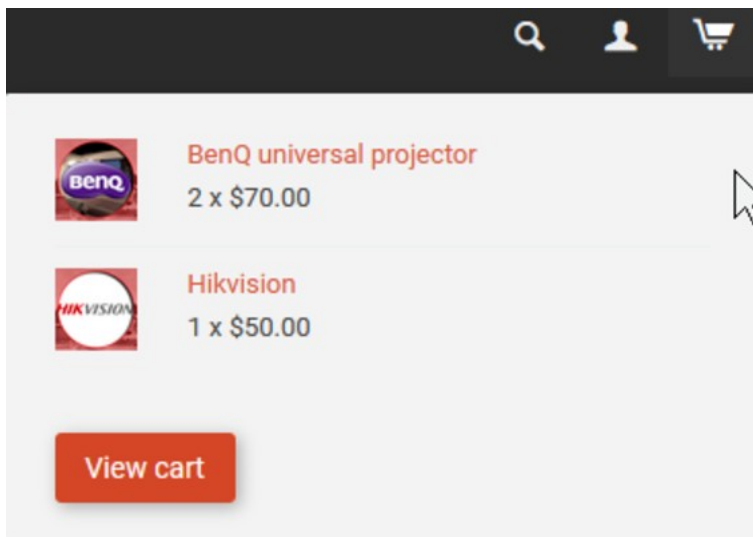
- Click **Close**

Purchasing a Driver Licence

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

ADD TO CART

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



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

Proceed to checkout

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

Checkout



Paypal
Paypal, or Credit Card...



Credit Card
Visa, Mastercard, etc...

☐ Select this check box to accept the [Terms and Conditions](#)

☐ [Subscribe to our newsletter](#)

Place order (\$190.00)

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

License Name	License Key	Project Assigned	Action
[REDACTED]	[REDACTED]	[REDACTED]	Assign to Project

7. 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

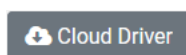
Enter email for Installer Notifi

Are you sure you want to do this?

Assign License to Project?

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	
	Project token from driverCentral.io project portal
Driver Actions	v
Debug Mode	Off 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 v