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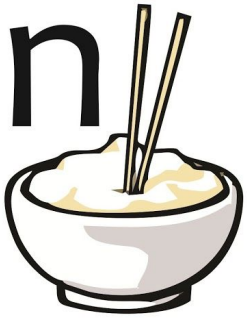
software & apps



# PJLink RTI Driver

PJLink®

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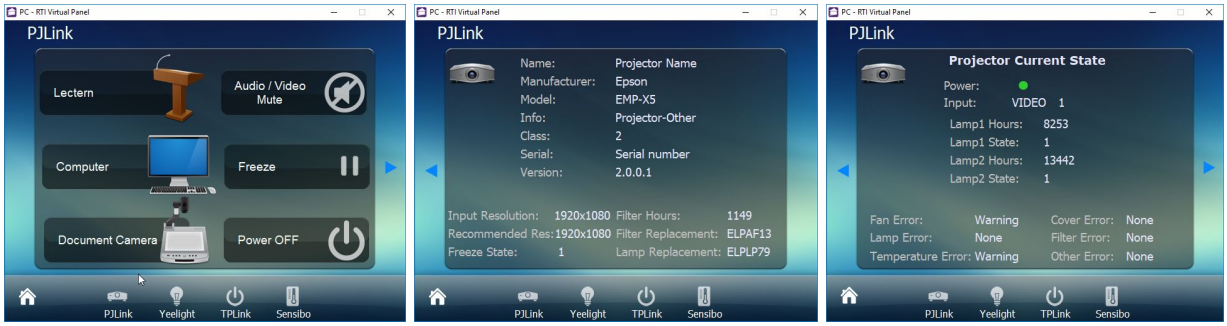
# Overview

The PJLink RTI driver allows for full control over the PJLink enabled projectors. The module supports most Japanese model projector including (but not limited to) the following

In addition to control over the projector it is possible to fetch lamp hours (for multiple lamps on supported models), filter hours (for multiple filters on supported models), recommended resolutions, error statuses and details on make, model, serial, replacement part numbers and firmware versions.



# Installation

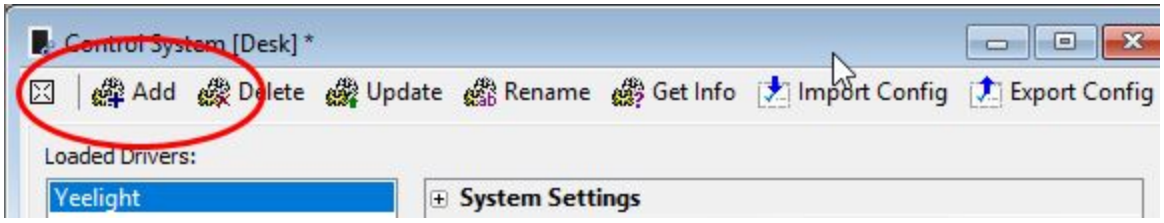
The zip file that included this documentation has the rtidriver file you will need to add. The first step is to download and extract the driver from the zip file. It doesn't matter where you store the file but we advise keeping them together.

The default location is Documents\Integration Designer\Control Drivers

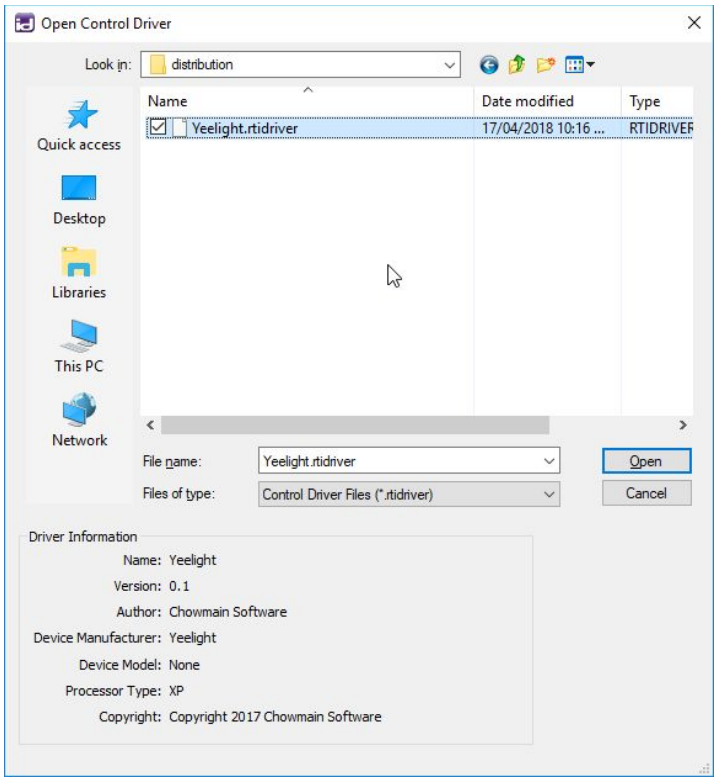
Select your processor from the System Workplace sidebar and select the Drivers tab at the bottom of the window (If you are using a KX3 in control mode then you might need to select 'Switch UI / Control Processor Mode' from the Device menu).

## Add the driver

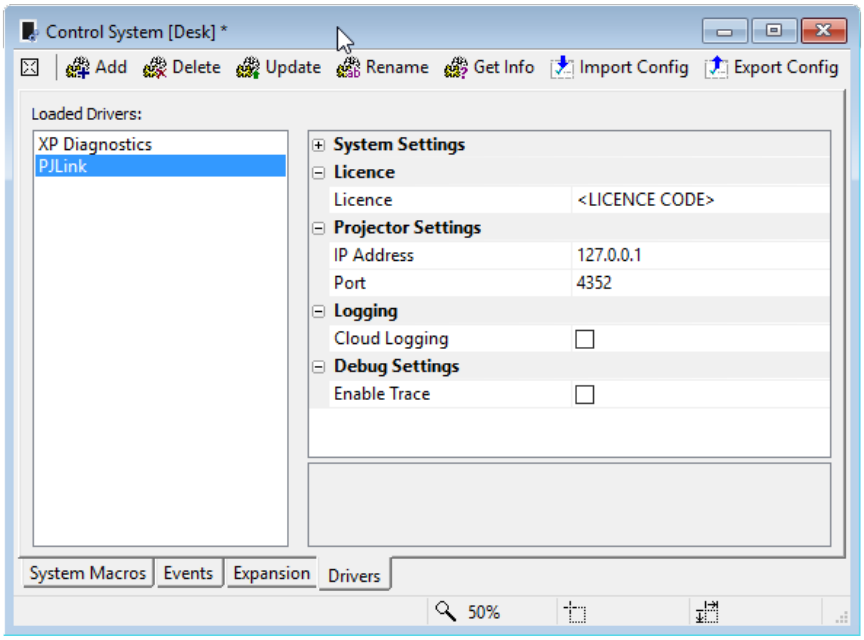
Click the Add button at the top of the driver window. The driver is now ready to configure or use.



Find the rtidriver file that you extracted from the zip file above. Click on Open when you have found the correct file.



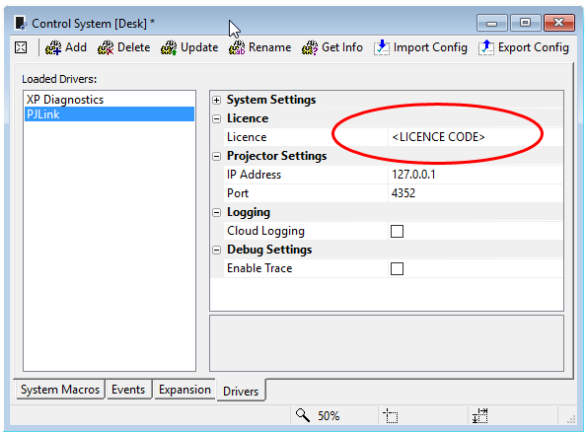

The driver is now ready to use.



# Driver Configuration

## Add licence to driver

The driver will work without a licence for 7 days, automatically entering the trial phase if you don't enter a licence key. To keep using the driver after the trial has expired you will need to purchase a licence key.




Once you have your key it should be entered in to the Licence field of the config settings for the driver.

Enter the licence into the field shown to the left.

# Device Configuration

The PJLink driver requires only two configuration settings, the ip address and the port of the projector you wish to control. Each device is different you you may need to refer to the manual of the projector for details on how to find the correct details. If it is not listed the default port for PJLink is 4352.

# Driver Variables

## State

### Power [boolean]

This variable indicates the current power state of the projector.

### Input Type [list]

This variable indicated the current input type of the projector. The types are presented as a list with the following options

| Input | Input Type | Examples |
|---|---|---|
| 1 | RGB | D-SUB, BNC, DVI-I (Analog), Scart |
| 2 | Video | RCA (Composite / Component), S-Video |
| 3 | Digital | DVI-I (Digital), DVD-D, HDMI, SDI, DisplayPort |
| 4 | Storage | USB, Compact Flash, SD Card |
| 5 | Network | Ethernet, Wifi, Bluetooth, Interactive Whiteboard |

### Input Number [number]

The input number represents which of inputs of type Input Type (above) is to be selected. The number will depend on the model. For example if the model has two RGB inputs then you could set this to 1 (for RGB 1) or 2 (for RGB 2).

### Mute Type [list]

The projector may support audio mute, video mute or both audio and video mute together. This variable represents which of those states the projector is current in.

| Input | Input Type |
|---|---|
| 1 | RGB |
| 2 | Video (Composite) |
| 3 | Digital (HDMI) |

### Mute State [boolean]

The Mute State will be active when the projector is muted and inactive when the mute is not enabled. This value should be used in conjunction with the Mute Type to detect what is currently being muted, audio, video or both.

## Lamp Usage

### Lamp 1 Hours [number]

This variable represents the total lamp hours for the projector. The upper value will depend on the projector so you may need to refer to the manual before building your touchscreen.

### Lamp 1 State [boolean]

This variable will be true if the lamp is currently in use, or false if it is not.

### Lamp 2 Hours [number]

This variable represents the total lamp hours for the projector. The upper value will depend on the projector so you may need to refer to the manual before building your touchscreen. Note for projectors that only have one lamp this value will always be 0.

### Lamp 2 State [boolean]

This variable will be true if the lamp is currently in use, or false if it is not.  Note, for projectors that only have one lamp this value will always be false.

## Projector Details

### Name [string]

This variable contains the name of the projector.

### Manufacturer [string]

This variable contains the manufacturer of the projector.

### Model [string]

This variable contains the model of the projector.

### Info [string]

This variable contains the any extra information about the the projector.

## Class [string]

PJLink (currently) supports two classes of projectors. Class 1 projectors support a limited range of return values, whereas Class 2 projectors return considerably more information. Below is a list of which values are returned in each class. There is also a boolean detailed below (Is Class 2) that can be used to show/hide fields based on this value.

| Class 1 | Class 2 |
|---|---|
| Power | Power |
| Input (Type and Number) | Input (Type and Number) |
| Mute (Type and State) | Mute (Type and State) |
| Lamp Hours 1 & 2 | Lamp Hours 1 & 2 |
| Name | Name |
| Manufacturer | Manufacturer |
| Model | Model |
| Info | Info |
| Class | Class |
| Error Status | Error Status |
| **Not Available** | Serial Number |
| **Not Available** | Software Version |
| **Not Available** | Input Resolution |
| **Not Available** | Recommended Resolution |
| **Not Available** | FIlter Usage |
| **Not Available** | Filter Replacement |
| **Not Available** | Lamp Replacement |
| **Not Available** | Freeze State |

### Is Class 2 [boolean]

This variable will be active if the projector is a class 2 and inactive otherwise. This variable is used to show/hide fields based on the type of projector.

### Serial Number [string]

This variable contains the serial number of the projector.

## Advanced Projector Feedback

### Input Resolution [string]

This variable contains the input resolution of the device attached to the currently selected input.

### Recommended Resolution [string]

This variable contains the recommended resolution of the for the currently selected input.

### Filter Usage [number]

This variable is a string that contains the number of hours the filter has been in use.

### Filter Replacement [string]

This variable holds the model number of the replacement filter.

### Lamp Replacement [string]

This variable holds the model number of the replacement lamp.

### Freeze State [boolean]

This variable will be active when the freeze state is on and inactive when the freeze state is off.

## Projector Errors

The Fan, Lamp, Temperature, Cover, Filter and Other error types support three error states detailed in the following table.

| Input | Input Type |
|---|---|
| 0 | None |
| 1 | Warning |
| 2 | Error |

### Fan [list]

This variable contains the current error state for the fan (or fans)

### Lamp [list]

This variable contains the current error state for the lamp (or lamps)

### Temperature [list]

This variable indicates whether there are any errors relating the temperature of the projector.

### Cover [list]

This variable indicates whether the cover of the projector has been opened or otherwise has an issue.

### Filter [list]

This variable contains the current error state for the filter (or filters)

### Other [list]

This variable contains the current error state for any other types of errors that don't fit into the categories above. This is device specific so you will need to read the owners manual to discover what those errors are.

The following error types are usually caused by internal errors. Some examples are given below to indicate why these errors might be triggered. Under normal working conditions these variables will not change, but if the projector has an error or has incorrect firmware installed they may be useful in diagnosing the problem.

### Undefined Command [boolean]

The command sent is not valid for this projector. An example of this would be sending a class 2 command to a class 1 projector.

### Incorrect Parameter [boolean]

The command sent has an invalid parameter. An example of this would be sending a query for lamp 2 on a projector that only supports 1 lamp.

### Invalid Time [boolean]

The projector has had trouble processing the command and has timed out.

### Projector Failure [boolean]

The projector has failed in a way that isn't reportable by the standard error types listed above.

## Driver Details

### Licence Valid [boolean]

This value will be active if the licence has been validated. If the licence is not active, or if it is revoked or if it was a trial licence that has expired this value will be inactive.

### Licence Info [string]

This variable will contain the current description of the licence check. It will help explain why the Licence Valid is inactive (a trial expiring for example).

### Connection Status [boolean]

This signal will be active when the driver is communicating to the projector. These connection times are very small so normally you won't see it change, but if you are having connection problems it can be useful to help diagnose the issue.

# Driver Commands

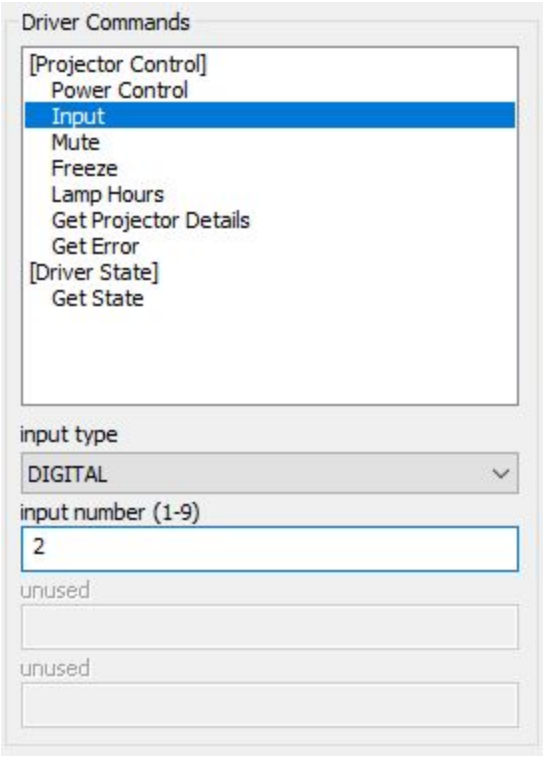
## Driver Commands

### Power Control

This command has an ON and an OFF parameter. Use it to turn the projector on or off.

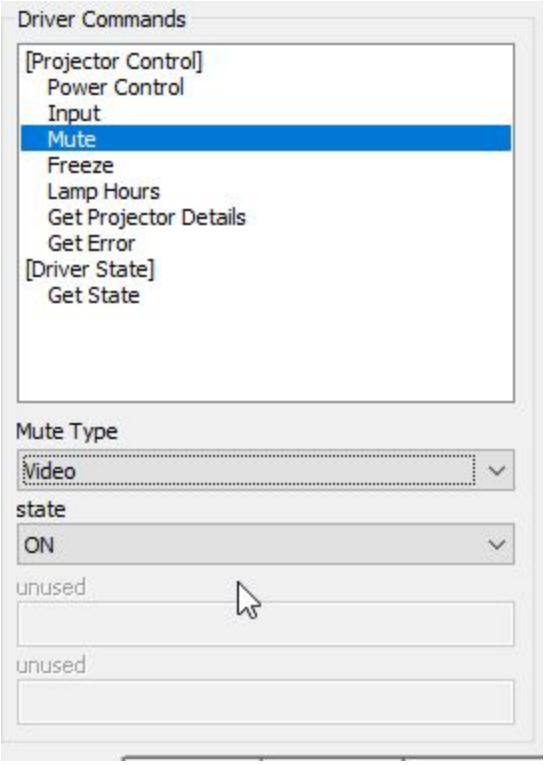
### Input

To set the input you need to select the type (RGB, Video, Digital, Storage or Network) and the number. You will need to refer to the manufacturers documentation for details on how the inputs for your projector are named.



## Mute

The mute command control audio mute, video mute or both audio and video together. The Mute Type is used to select between these three options. The state is used for turning the selected mute type on or off.




## Freeze

The freeze command can be used to turn on of off the freeze function of the projector.

## Lamp Hours

The lamp hours command can be used to fetch the current lamp hours.

## Get Projector Details

The get projector details command can be used to fetch all the available details for the projector. The data returned will depend on the class of the proejctor, refer to the class variable for details on what to expect as a return value.

## Get Error

The get error command will fetch the current state of the fan, lamp, cover and temperature.