



Player One Astronomy

Micro-Manager Device Adapter Manual

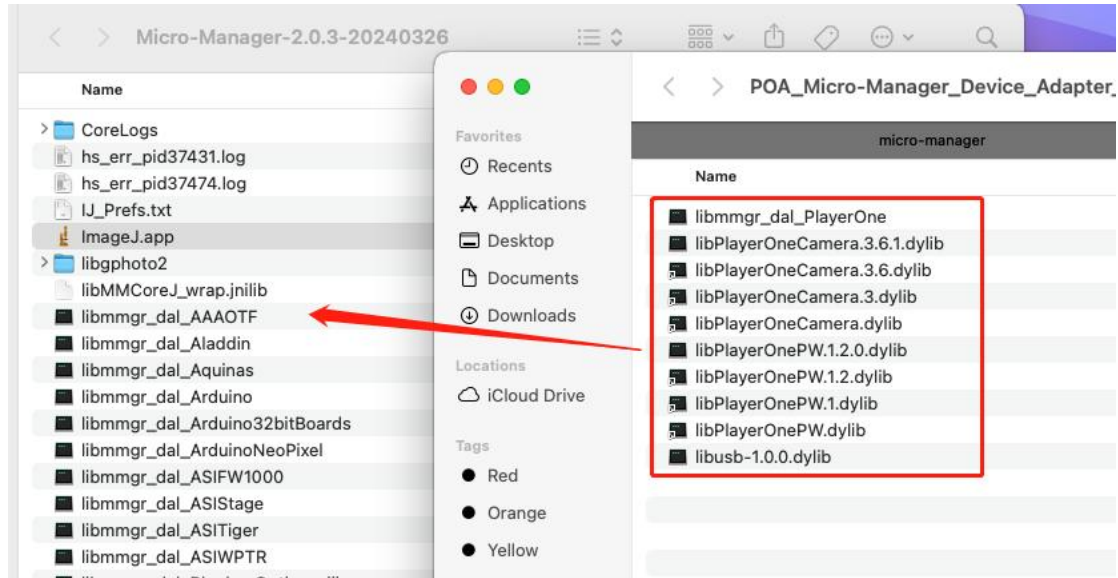
Revision 0.1

Mar 2024

Copyright (C) Player One Astronomy Co., Ltd. All rights reserved.

1. Install the Adapter

Please copy libmmgr_dal_PlayerOne and all .dylib files to the Micro-Manager folder, as shown in the figure:



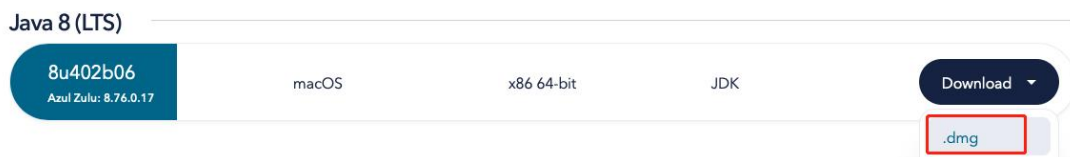
Note: Please install Micro_Manager V2.0.3 or later versions.

Download URL: [Micro-Manager 2.0 Mac nightly downloads](https://www.micro-manager.org/downloads/micro-manager-2.0-mac-nightly-downloads)

If you haven't run Micro-Manager on your Mac yet, the following information may be helpful:

-- Download the Zulu JDK8 (x86 64bit) and install it(dmg file), here is the URL:

<https://www.azul.com/downloads/zulu-community/?&os=macos&os-details=macOS&package=jdk>



Note: Even if your Mac has a M series CPU, please download the x86 64bit JDK.

-- After installing Mirco-Manager, do not run it yet. According to the official website documentation, you need to do this: within the Micro-Manager folder in Applications, hold command and drag ImageJ onto the desktop. Then hold command and drag it back in. Then try running again. In addition, you need to CTRL-click or right-click and select Open (instead of simply double-clicking) the first time you open it. Please see [Micro-Manager Installation Notes](#).

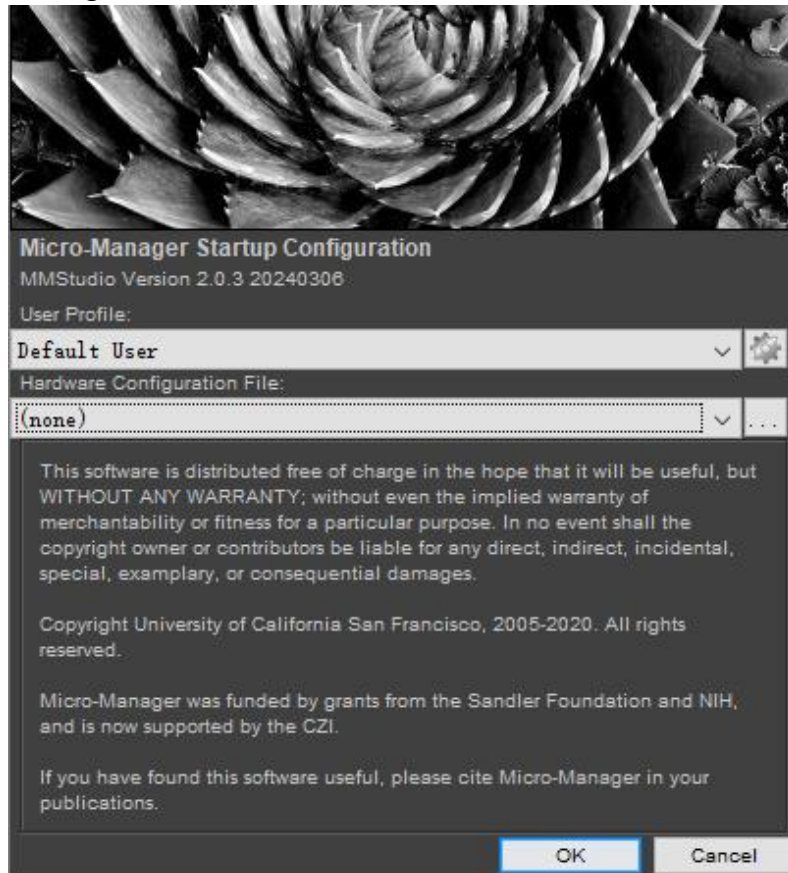
Run this command in terminal:

```
sudo xattr -r -d com.apple.quarantine /Applications/Micro-Manager-2.0.3-20240326
```

Please change *Micro-Manager-2.0.3-20240326* to the installation path of your Micro-Manager.

2. Hardware Configuration

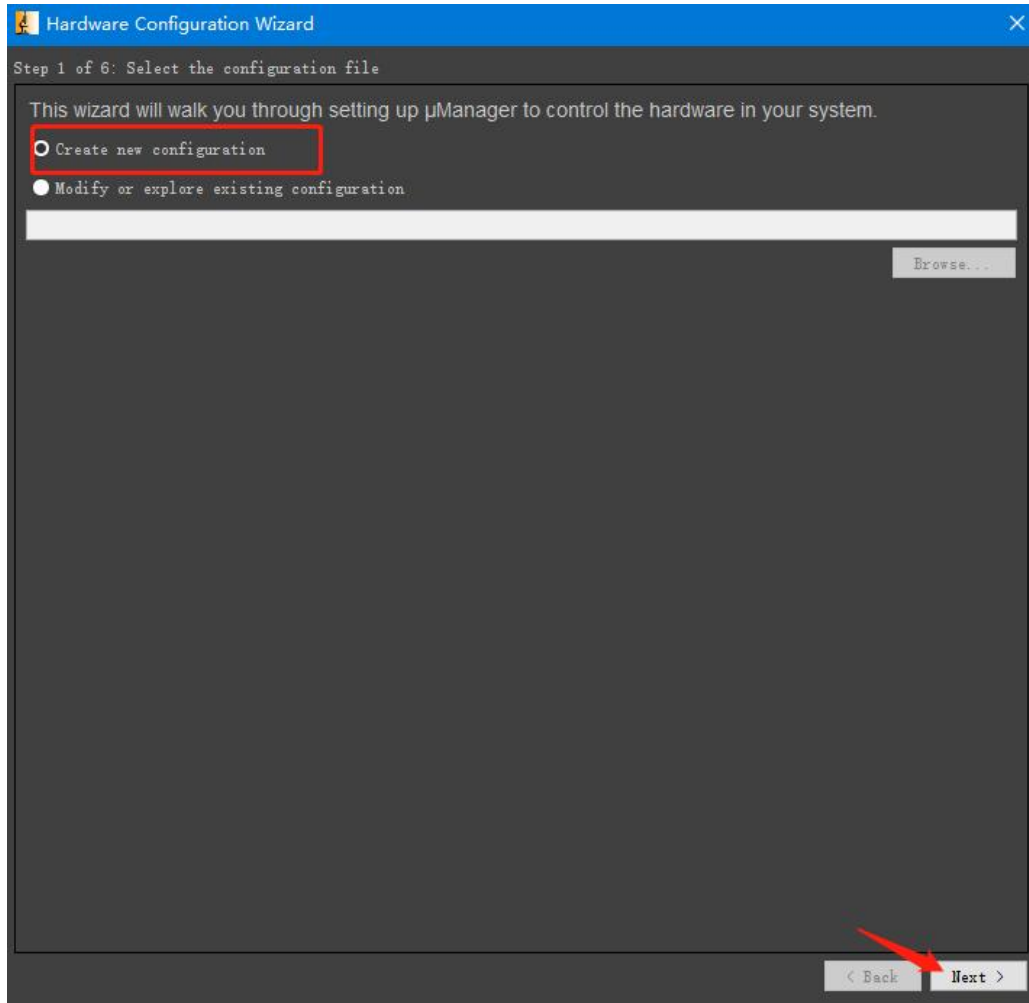
After Micro-Manager starts for the first time, select none:



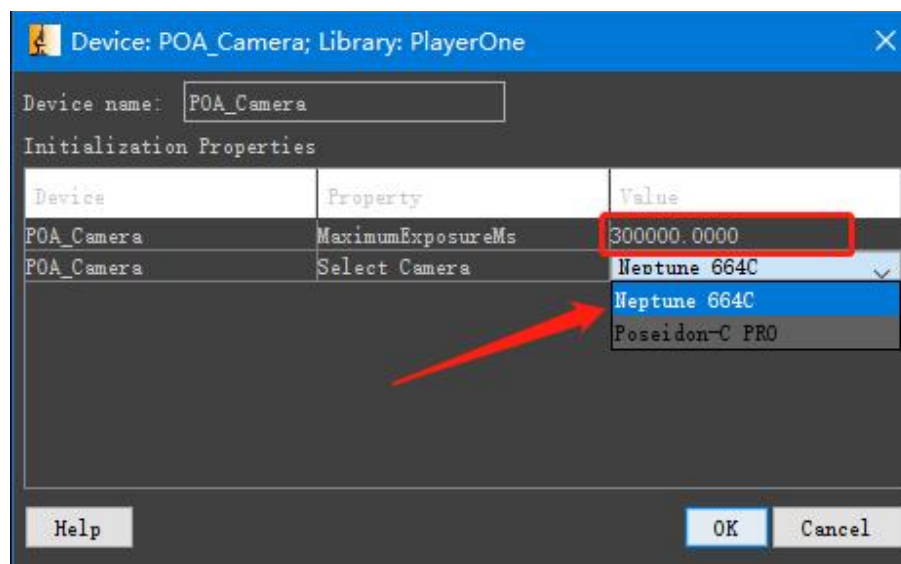
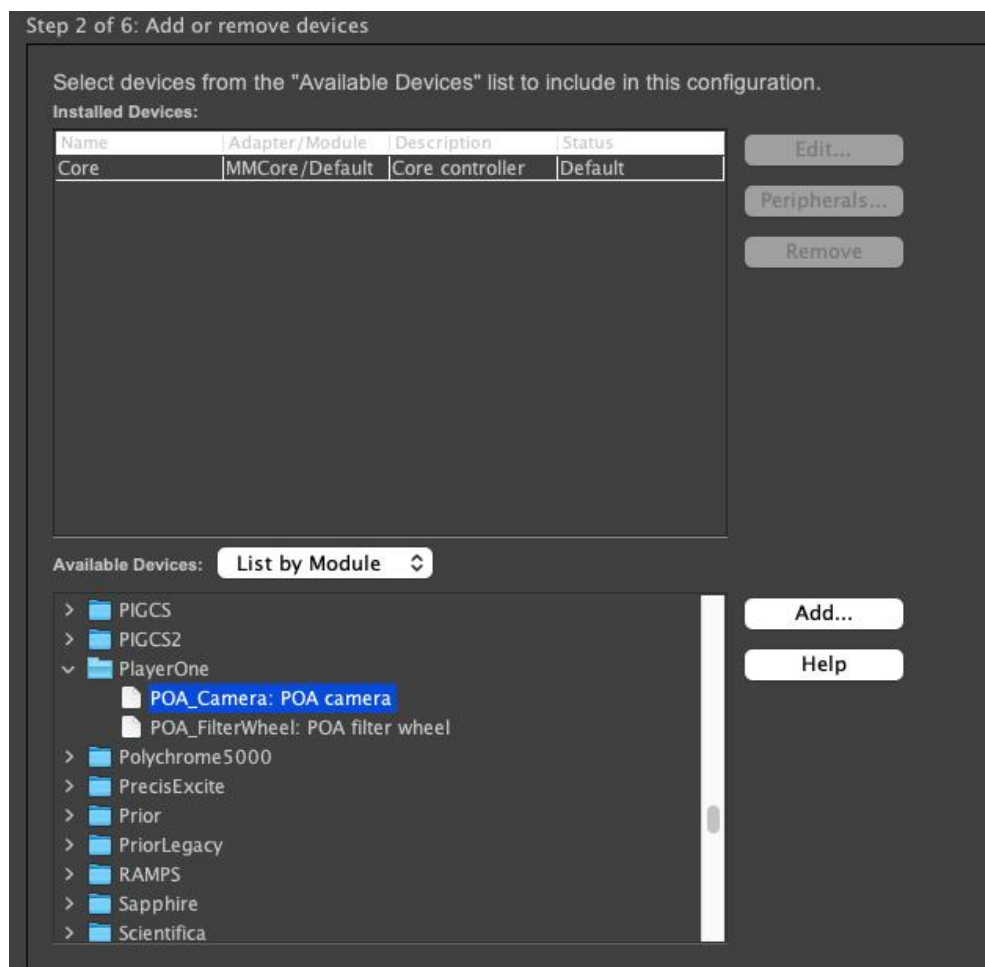
In the menu, click *Devices-> Hardware Configuration Wizard...*



Configure Player One's camera and filter wheel as shown in the image below:



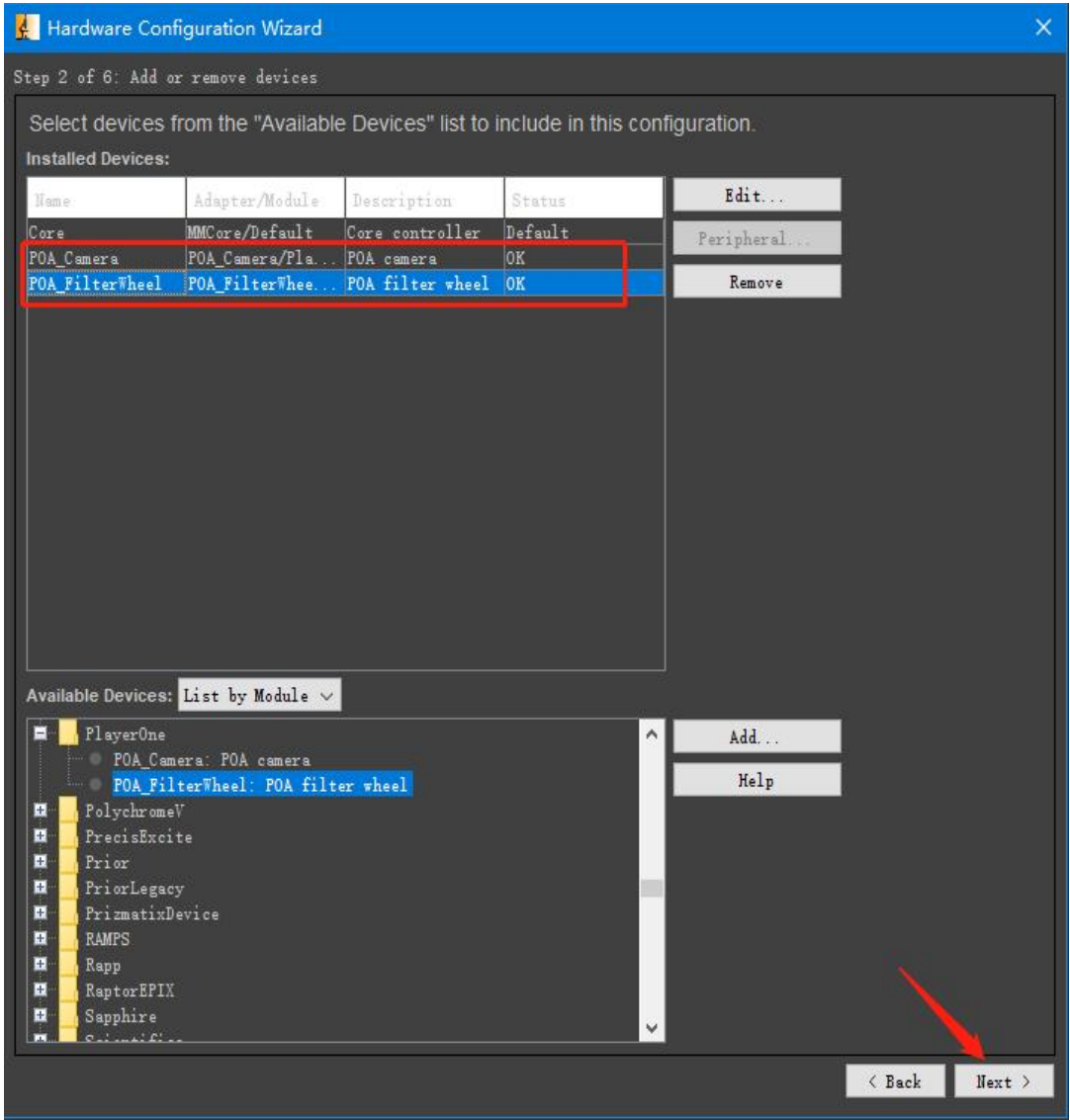
Double click the item of POA_Camera:



MaximumExposureMS: Set the camera's maximum exposure time, the default is 2000000ms.

Select Camera: If you have multiple cameras, you can choose the one you want to use.

If you have a Player One filter wheel, you can also add it:



Hardware Configuration Wizard

×

Step 3 of 6: Select default devices and choose auto-shutter setting

Select the default device, where available, to use for certain important roles.

Default Camera: POA_Camera ▾

Default Shutter: ▾

Default Focus Stage: ▾

☒ Use Autos shutter By Default

☐

< Back

Next >

Hardware Configuration Wizard

Step 4 of 6: Set delays for devices without synchronization capabilities

Set how long to wait for the device to act before μ Manager will move on (for example, waiting for a shutter to open before an image is snapped). Many devices will determine this automatically; refer to the help for more information.

Name	Adapter	Delay [ms]	Help
POA_FilterWheel	POA_FilterWheel	0.0	

< Back

Next >

Hardware Configuration Wizard

Step 5 of 6: Define position labels for state devices

Some devices, such as filter wheels and objective turrets, have discrete positions that can have names assigned to them. For example, position 1 of a filter wheel could be the DAPI channel, position 2 the FITC channel, etc. Assign names to positions here.

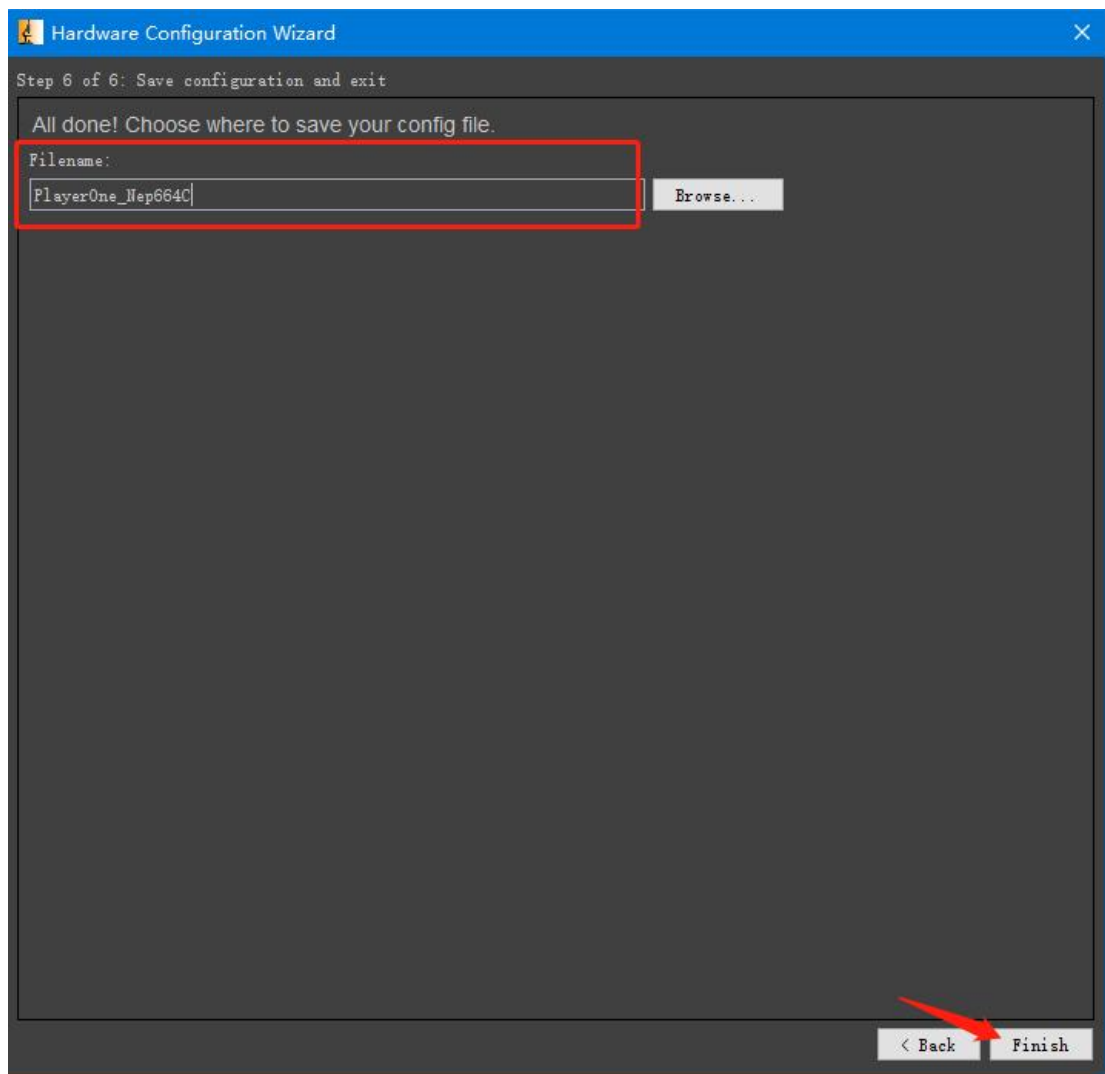
State devices	State	Label	Read
POA_FilterWheel	0	position-0	Reset
	1	position-1	
	2	position-2	
	3	position-3	
	4	position-4	
	5	position-5	
	6	position-6	

< Back

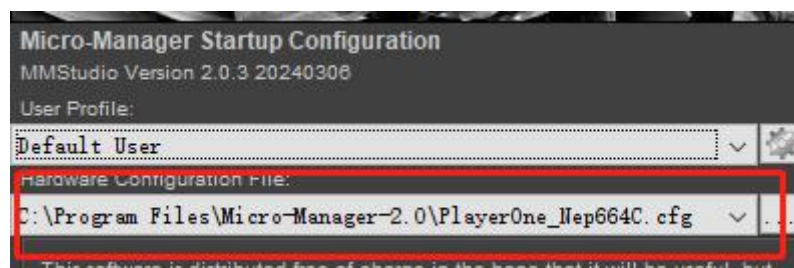
Next >

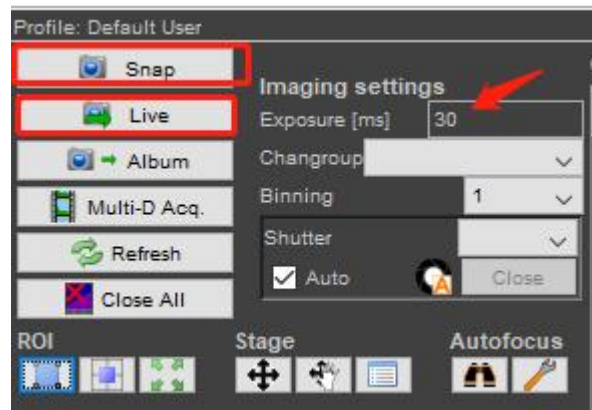
You can edit the filter name, like change 'position-0' to 'R'.

Please input the name of the configuration file.



Note: In later use, after Micro-Manager starts, select this configuration file:





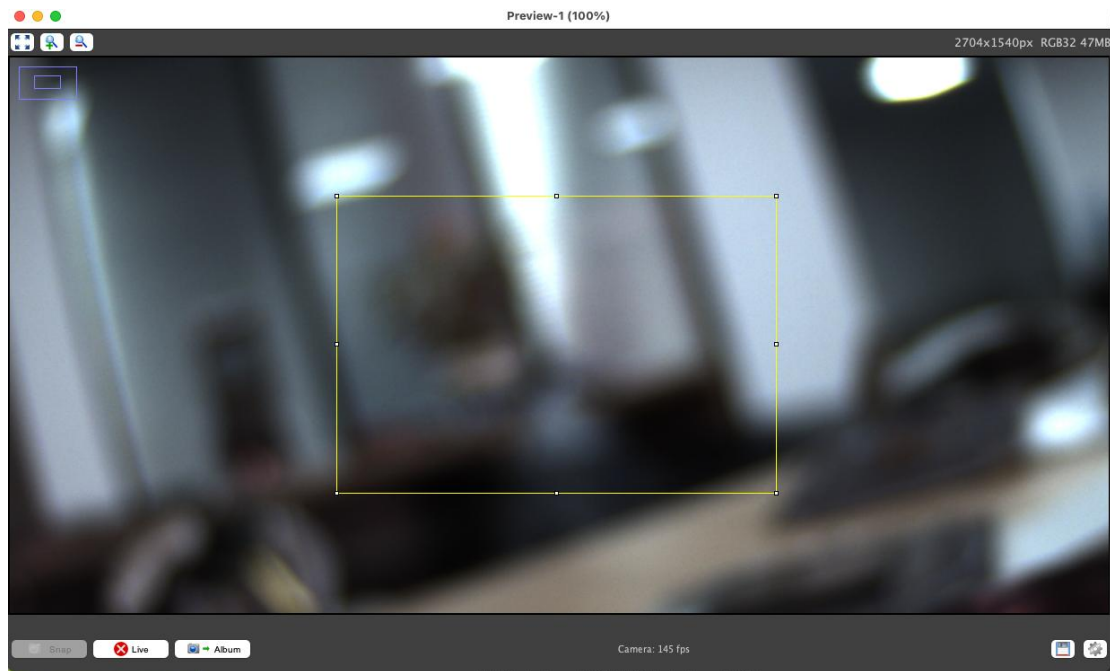
Snap: single frame

Live: video stream

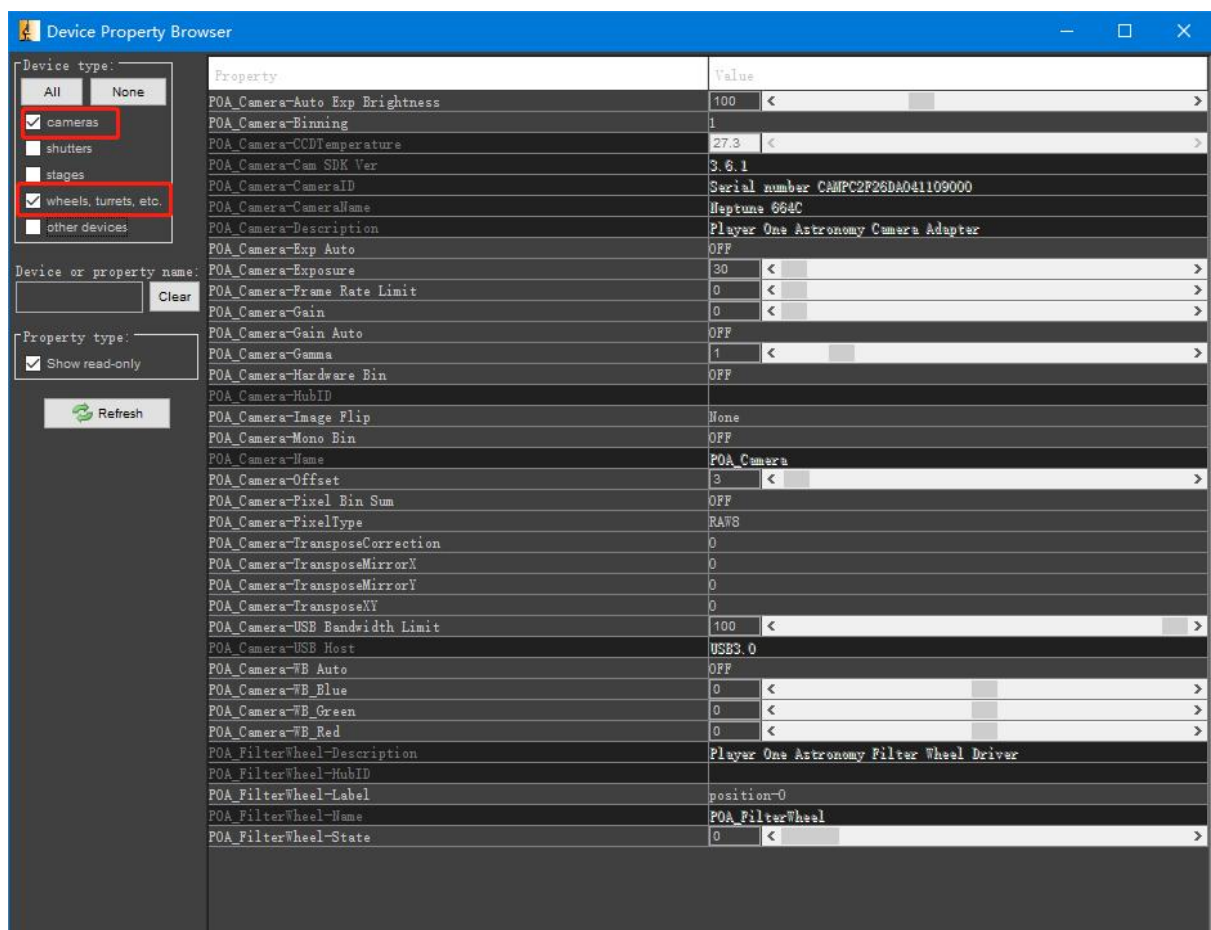
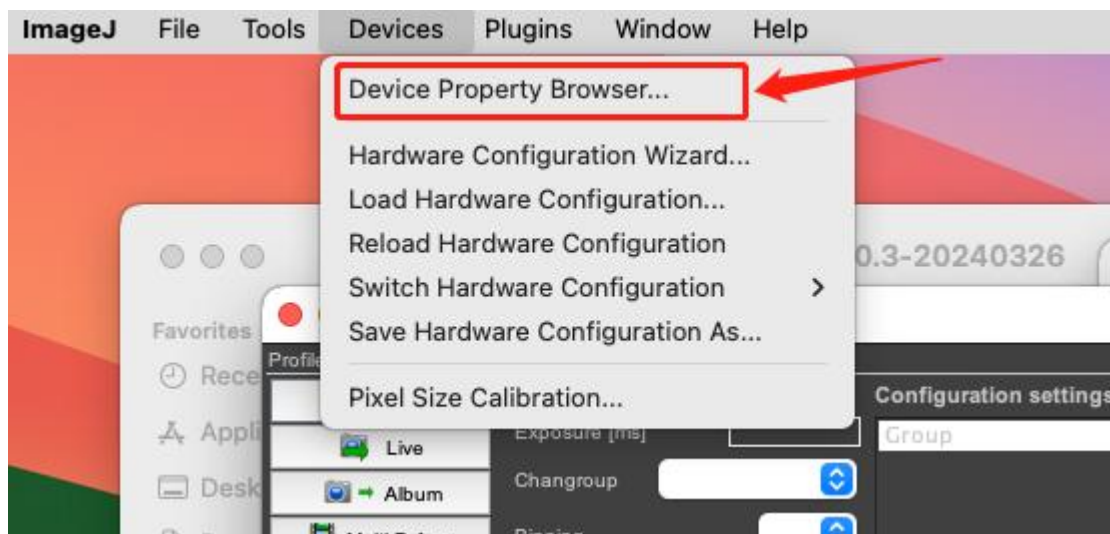
Exposure[ms]: exposure duration

Binning: image pixel binning

Drag a area to set the ROI:



To set more parameters, in menu, click *Devices->Device Property Browser*:



In Property Browser, you can set gain, white balance, cooling setting(if cooled camera)...

If you want to switch the filter of the filter wheel, please change the value of Label:
Note: the UI is frozen, when filter wheel is moving.

