Prior LumeLED and uManager

The Prior LumenLED can be controlled in uManager when run under the filter wheel and shutter compatibility mode.

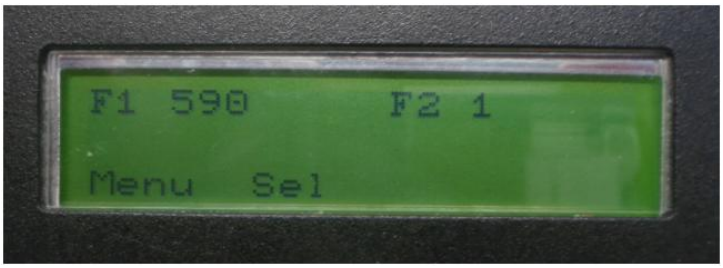
LumenLED and Compatibility Mode.

Connect up the LEDs and start the controller (see LumenLED manual). The PS3J100 controller should exhibit the following screen if the system is running in normal mode.

To configure the Prior controller run Prior Terminal (see Prior Terminal Setup) and send the following command

LED,COMP,1

Restart the controller, is should now boot up in Compatibility Mode and the PS3J100 controller should now show the following screen.



LED wavelength selection will emulate one filter wheel and LED intensity level will emulate another filter wheel. The will be one filter wheel position left to add an additional physical filter wheel.

Eg. Filter Wheel 1 - LED wavelength selection.
Filter Wheel 2 - LED Intensity Level Selection
Filter Wheel 3 – HF110 filter wheel. (not shown in above image)

Note as the Prior filters wheels a designed with 10 positions the possible intensity levels will be as follows;

1	= 100%	6	= 75%
2	= 95%	7	= 70%
3	= 90%	8	=65%
4	= 85%	9	=50%
5	= 80%	10	= 25%

The ON/OFF function of each LED will emulate the Prior shutter. If a physical shutter is present also select one of the available free shutter ports for the LumenLED.

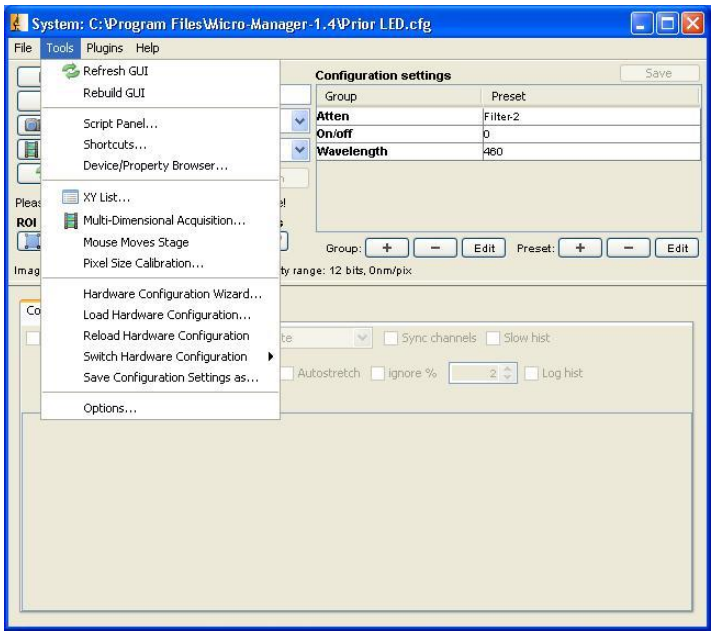
Eg. Shutter 1 – HF202 shutter.
Shutter 2 – LumenLED ON/OFF function
Shutter 3 - Free

The Open command of the shutter will turn On the LED unit currently selected in the filter wheel. The Close command of the shutter will turn OFF the LED unit currently selected in the filter wheel.

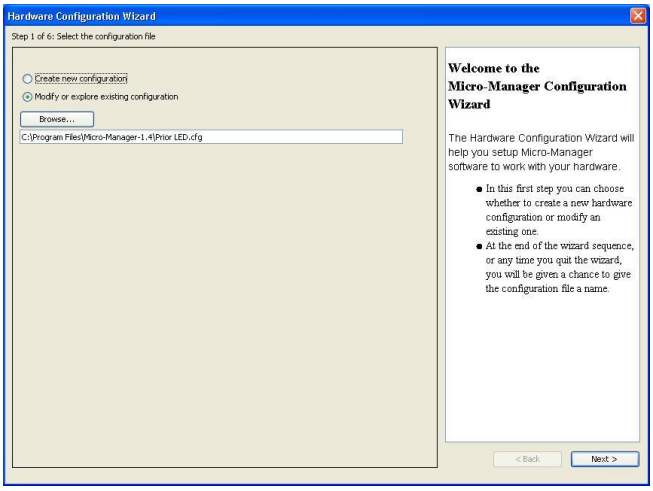
LumenLED and uManager

NOTE in this explanation we are using;
Shutter 1 – for LED On/Off.
Filter Wheel 1 - for LED wavelength selection.
Filter Wheel 2 - for LED attenuation selection**.**

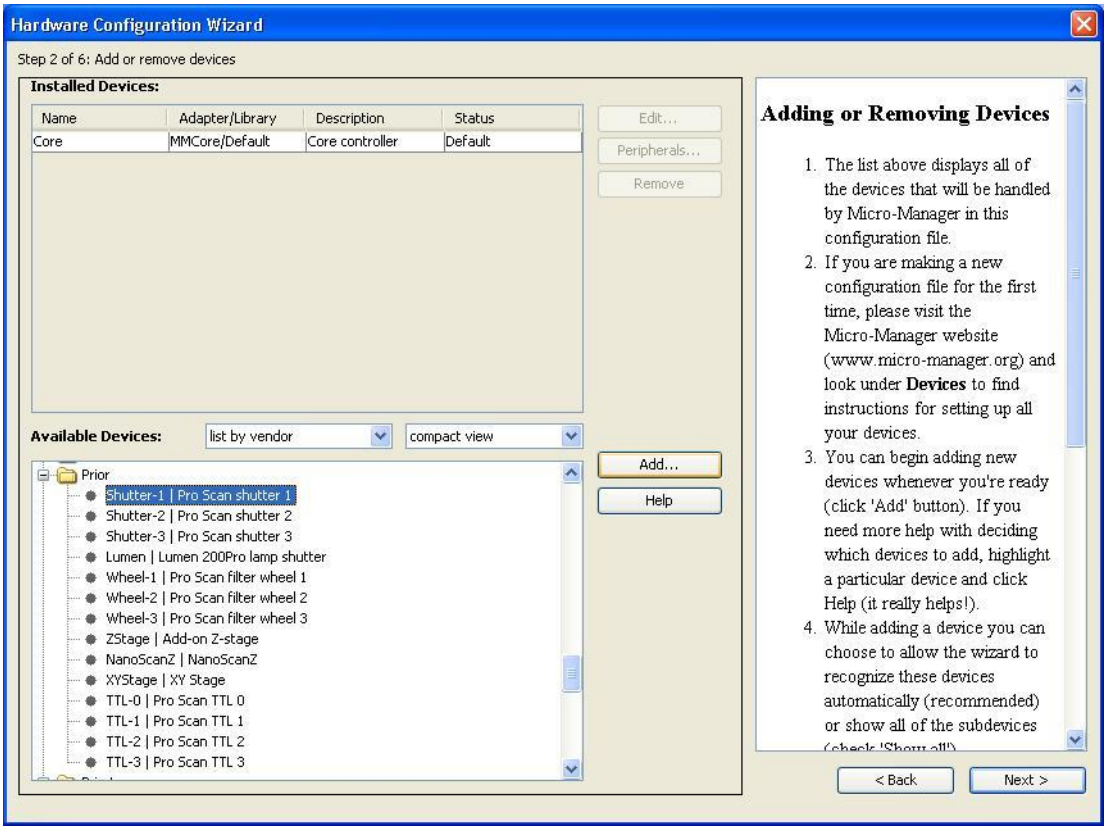
Start uManager and go to Tools menu -> Hardware Configuration Wizard.



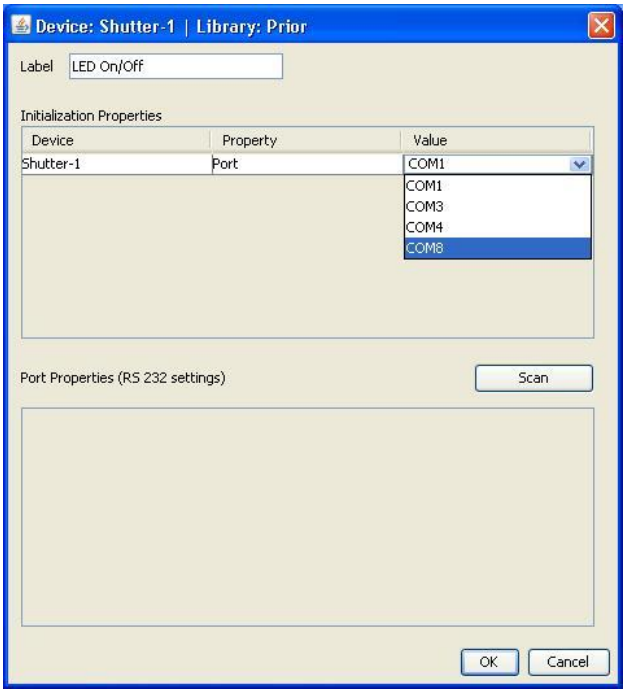
Select ***'Create new configuration'*** and click **'Next'**



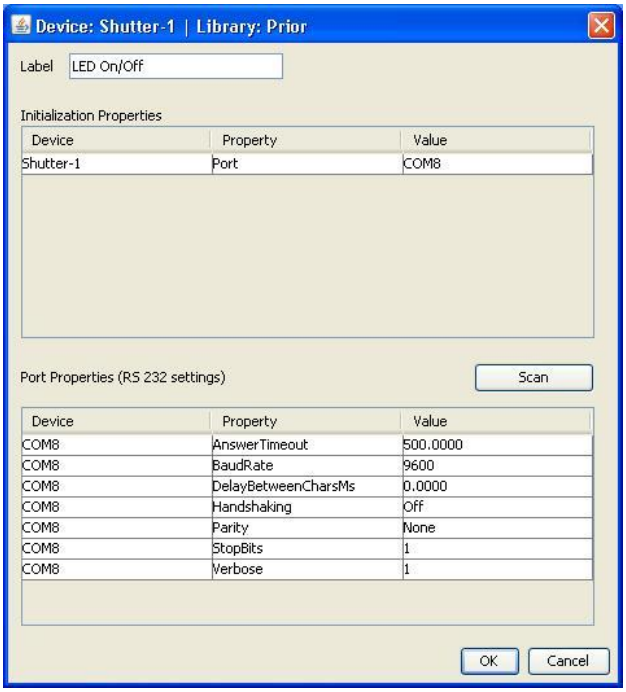
Scroll Down to the Prior Folder under Available Devices.



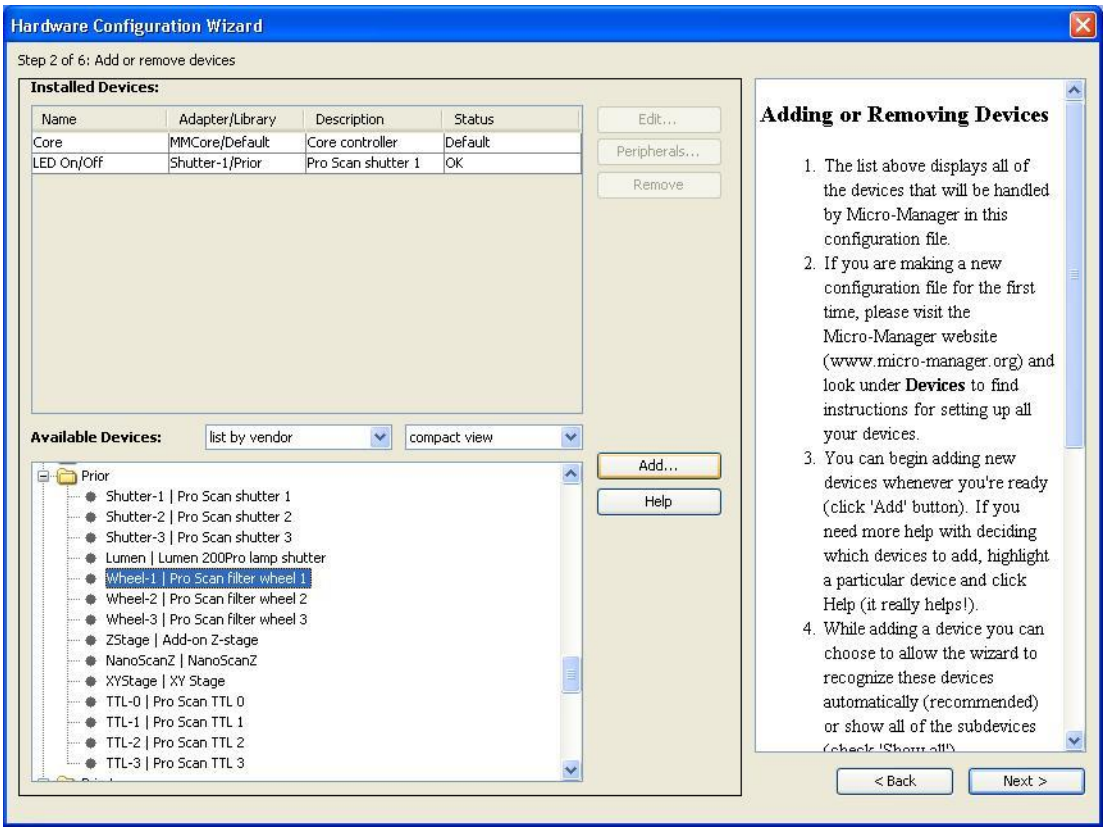
Select the following devices ***'Shutter-1 | Pro Scan shutter 1'*** and click **'Add'** and following screen will appear.



Change the label to identify the shutter as eg "***LED On/Off".***
Click on the white box under '**Value'** in **'Initialization Properties'** and select the correct COM port.
Click **'OK'**.



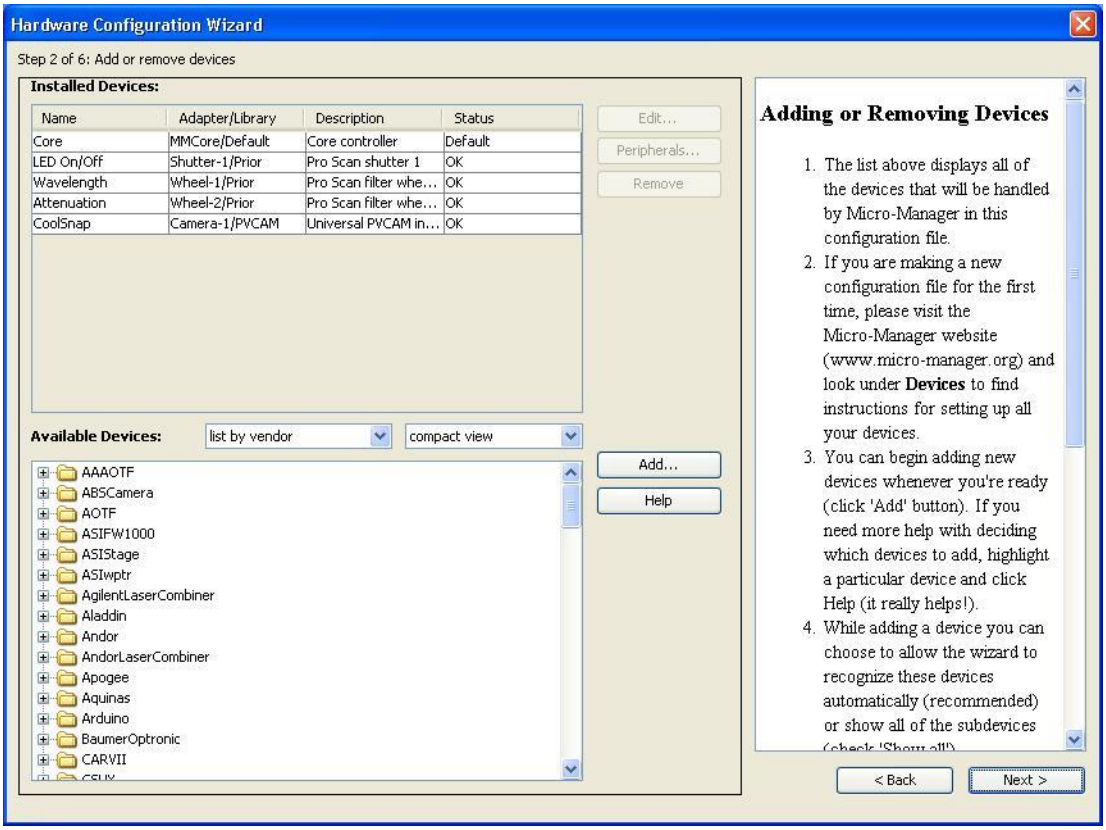
Make sure the correct values are set for the Baud rate etc (see above).



Select the following devices ***'Wheel-1 | Pro Scan filter wheel 1'*** and click **'Add'**.
Set up the correct COM ports as with the Shutter.
Change the label to a name that identifies the function of the wheel, eg ***"Wavelength".***

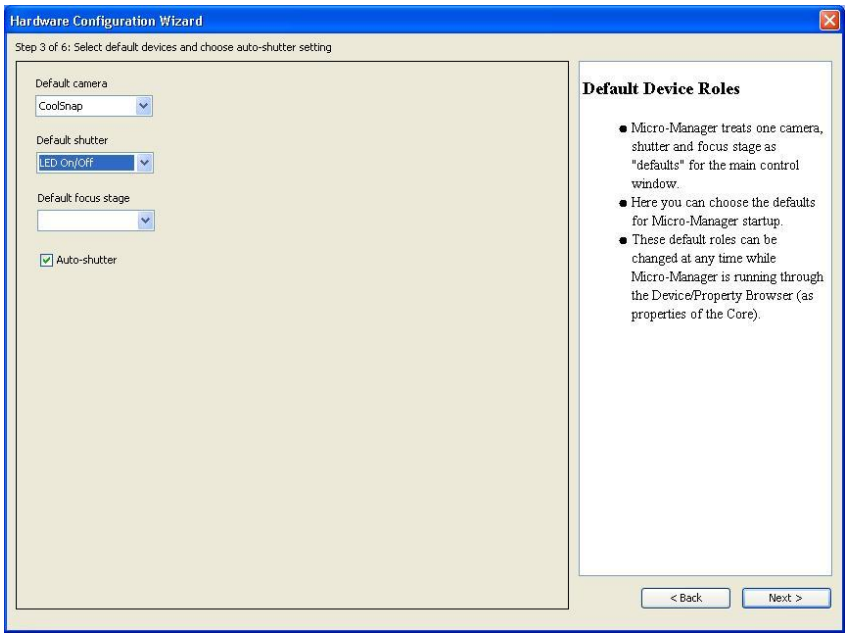
Repeat the above steps to add a second Filter Wheel and Label this accordingly, eg "***Attenuation".***

The following devices should now be added to the **'Installed Devices'** list. The Status should read **'OK'** if the software has managed to successfully connect to the hardware.

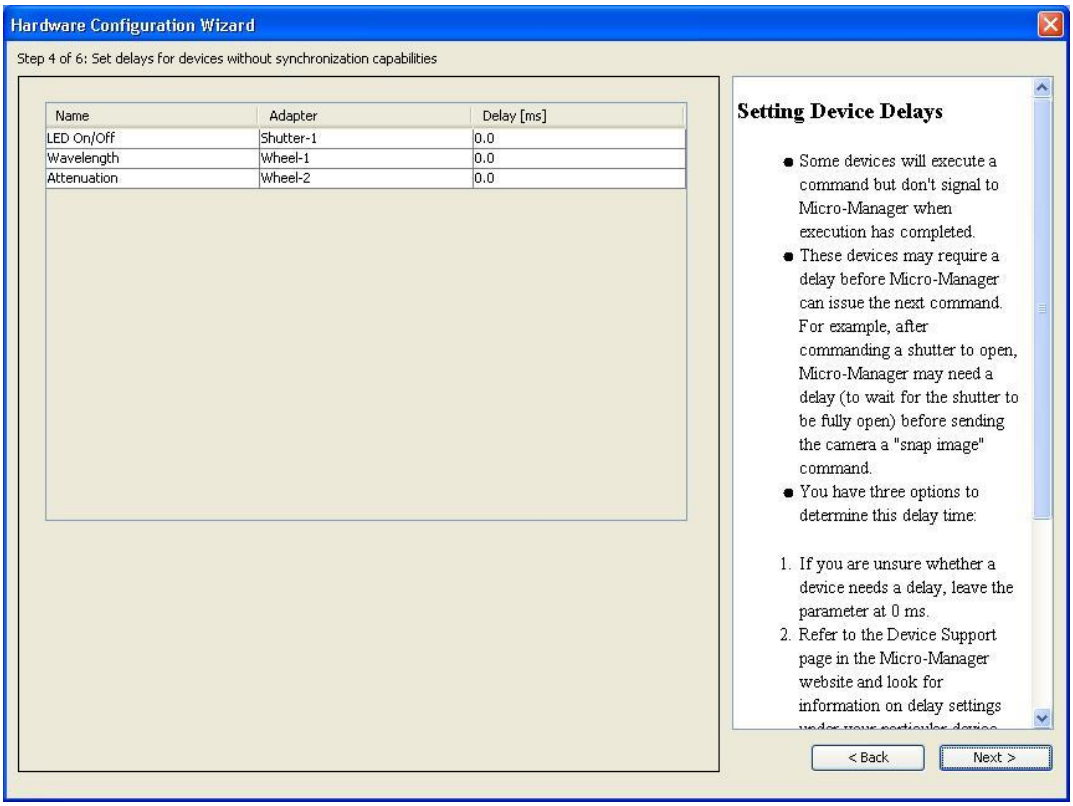


Remember at the point to add any other Prior equipment (eg stages, shutters, filter wheels) and any other external hardware (eg microscopes, cameras etc), before moving onto the next step. In this example a CoolSnap camera was also added.

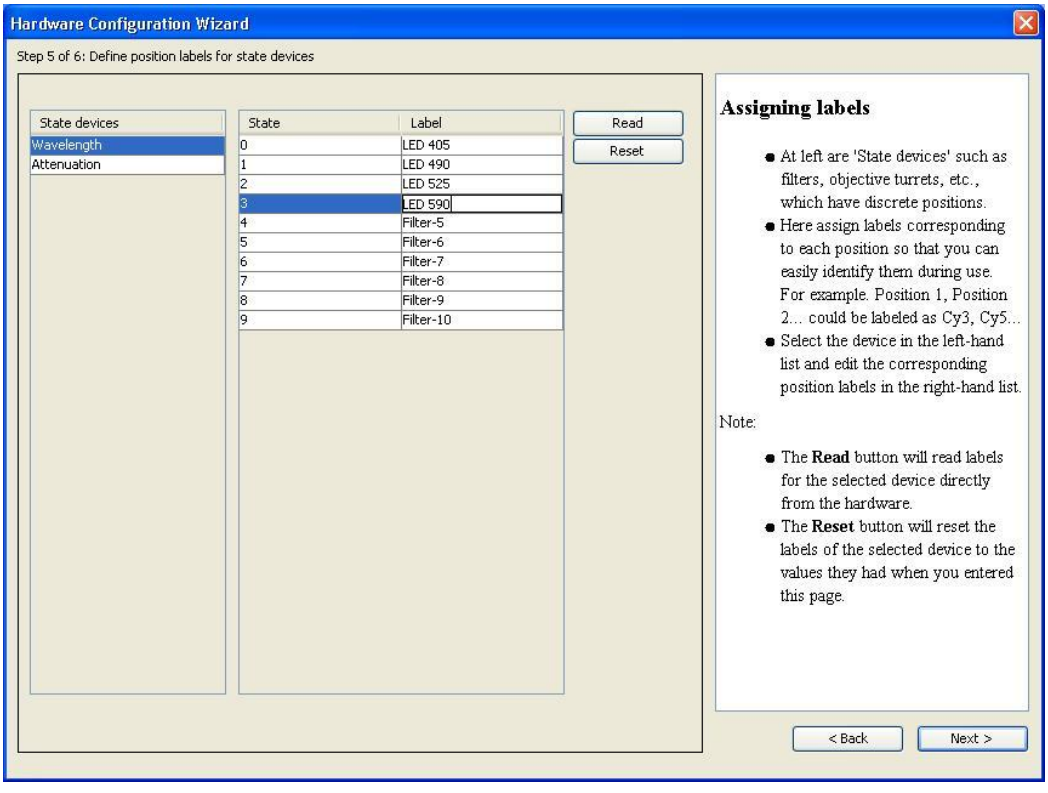
Click **'Next'** to continue to the following screen



Here you can select the "***Default Devices and Choose auto-shutter setting***".
The LED On/Off can be set to be the "***Default Shutter".***
Click '**Next**' to continue

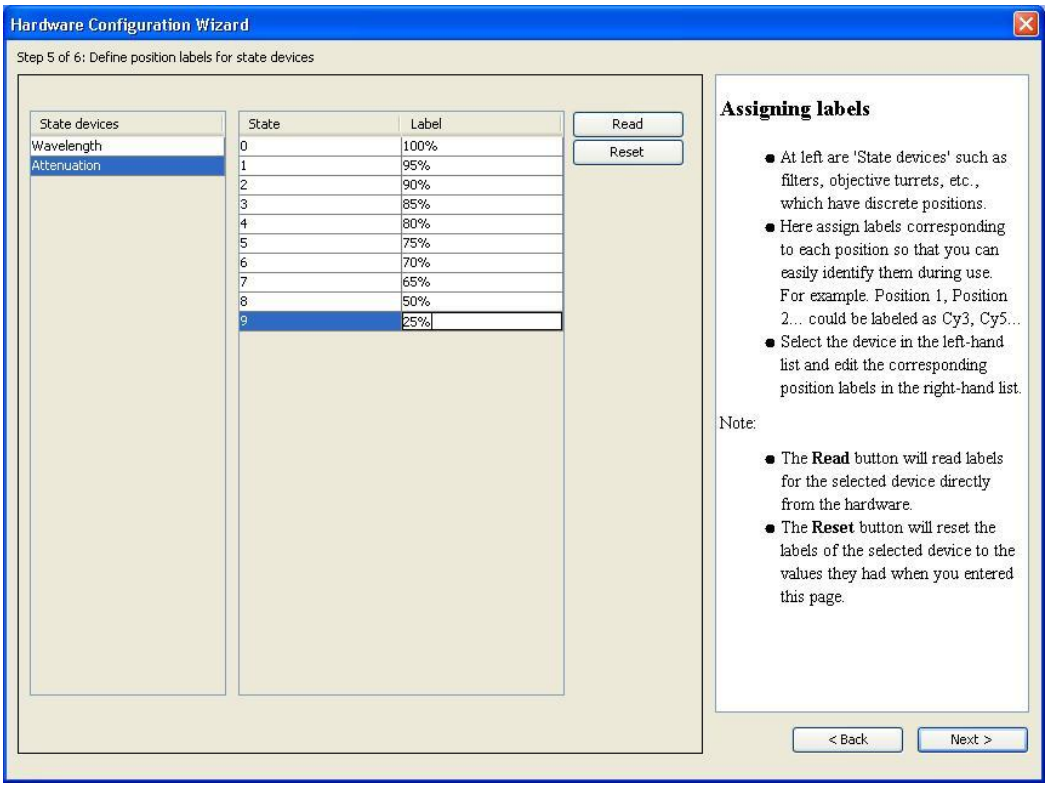


The "***Set delays for devices without synchronization capabilities***".
Leave all the values to 0.0ms. Click **'Next'** to continue.

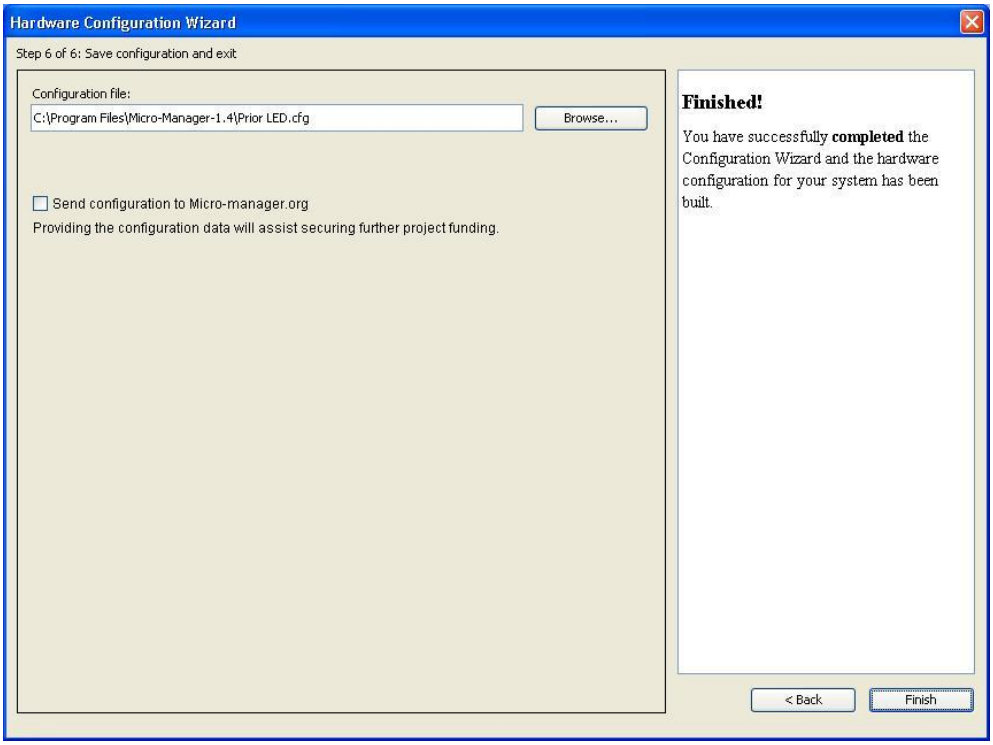


The properties of the filter wheels can be set in ***"Define Position Labels for State Devices"*** Under Wavelength type in the wavelength properties for each of your LEDS. Note 0 is Filter wheel position 1.

Under the Attenuation type in the properties for the LED attenuation settings. See image below.

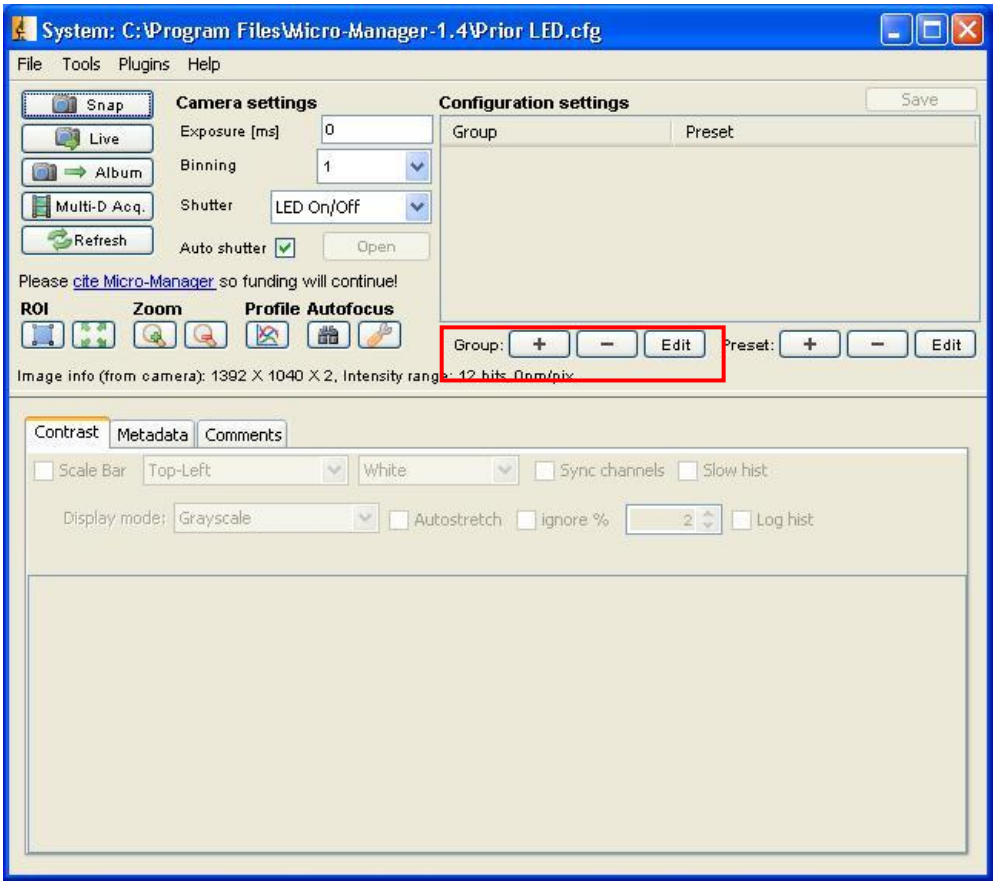


Click **'Next'** to continue.

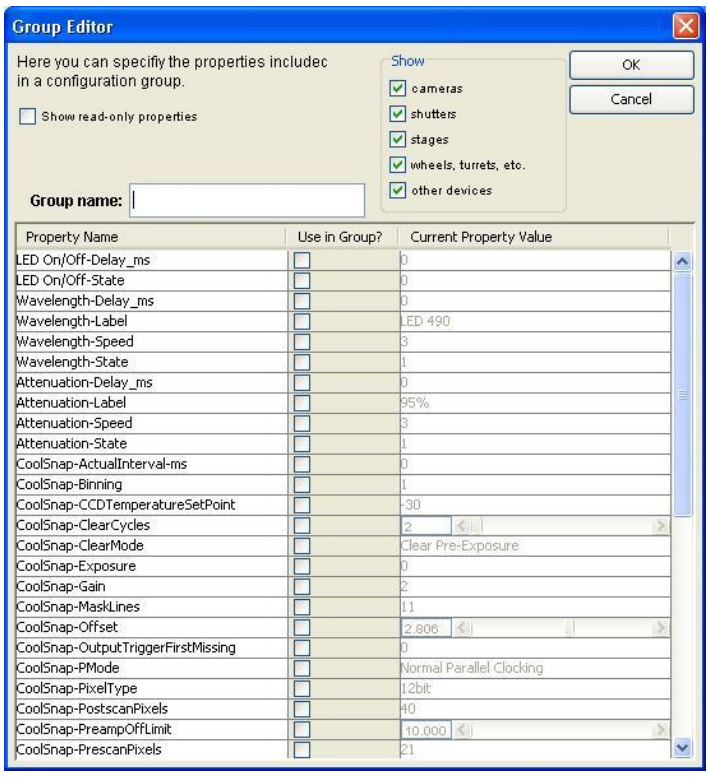


Save your configuration and click **'Finish'**

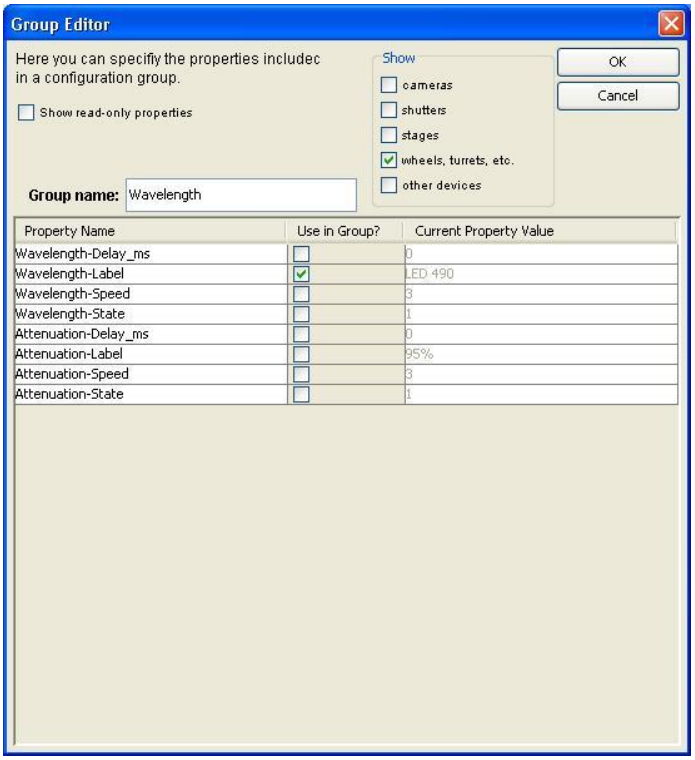
Working with Prior LumenLEDs inside uManager



To get quick access to changing wavelength and attenuation of the LEDS it is best to set up Groups. Click on the + sign to add a new Group.



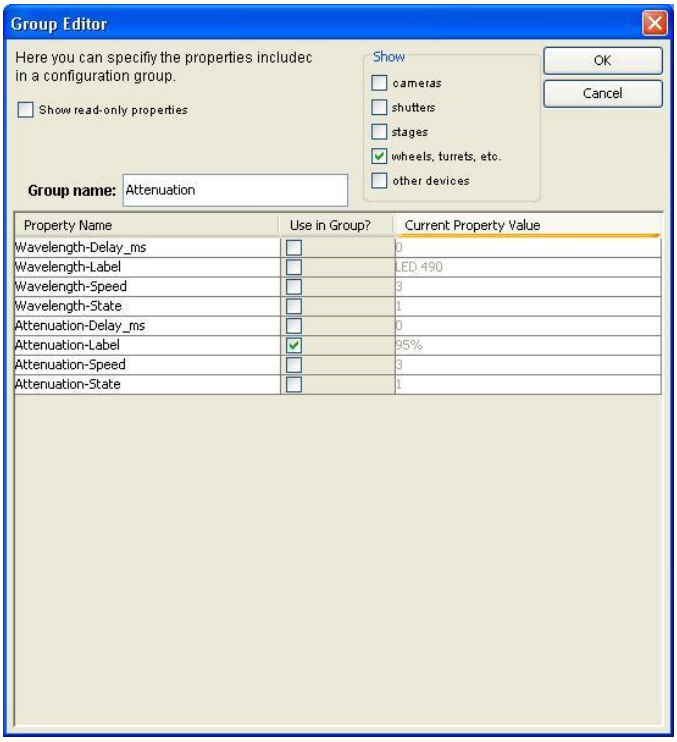
Under the **‘Show’** section select only “wheels, turrets etc”.



Under Use in Group select Wavelength-Label and give a name to Group Name eg “Wavelength”
Click OK

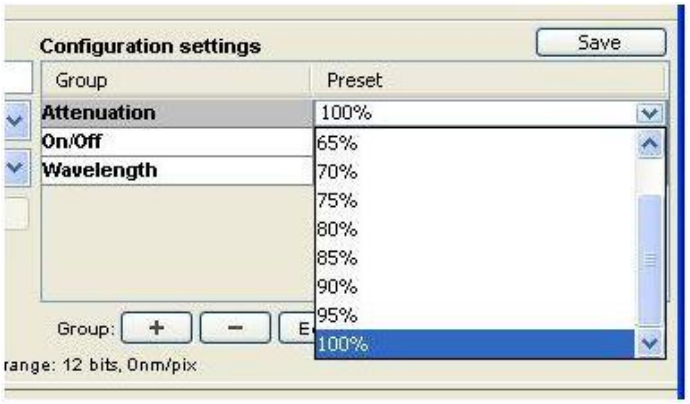
Click on the + sign at add another Group

Under the **‘Show’** section select only “wheels, turrets etc”.

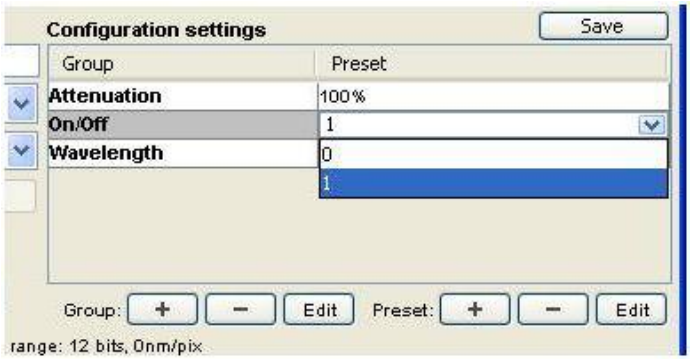


Under Use in Group select Attenuation-Label and give a name to Group Name eg “Attenuation” Click OK

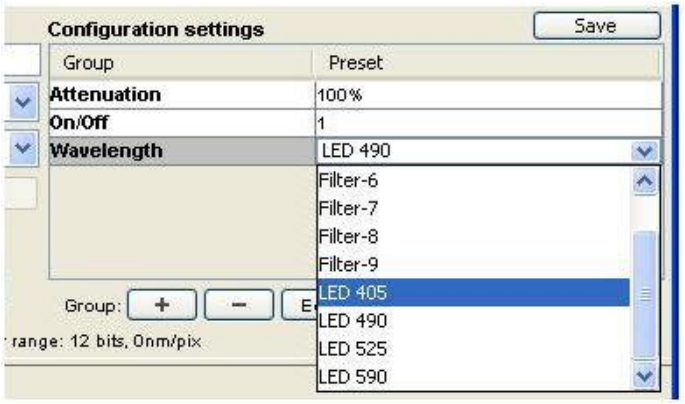
Now you can quickly select the properties of the LEDS



Wavelength Intensity Levels

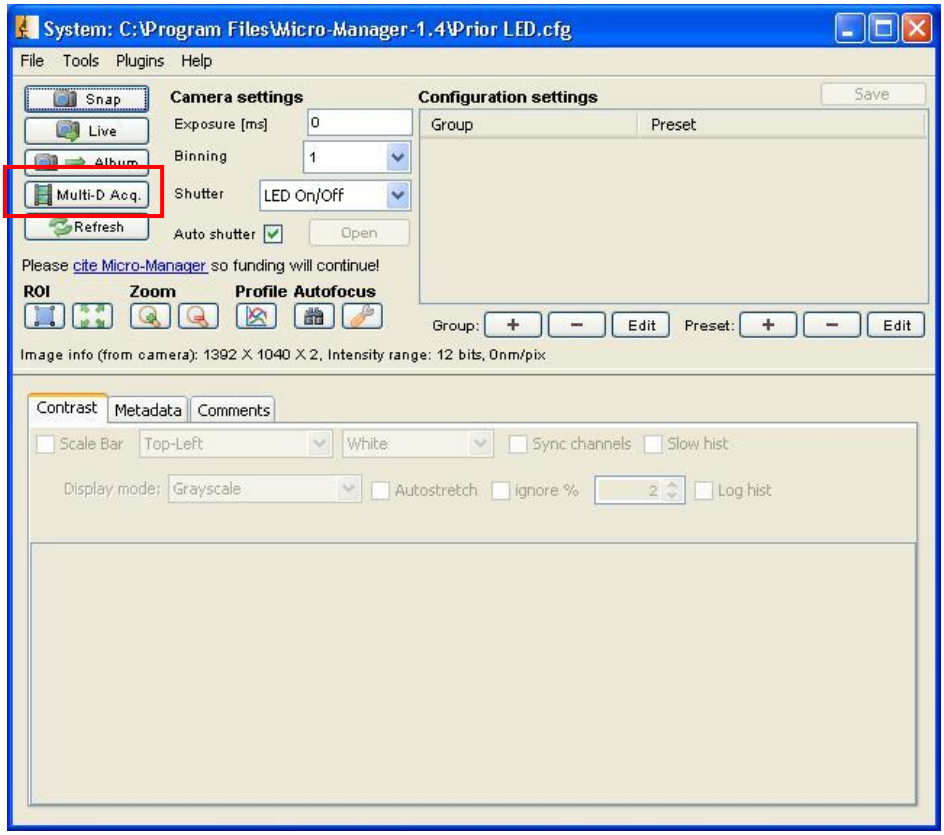


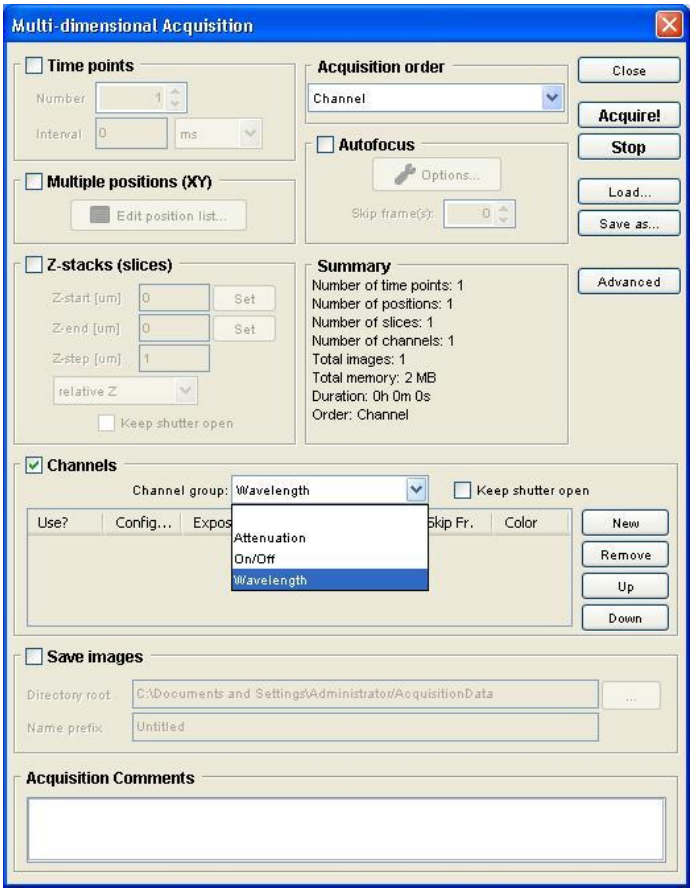
LED ON = 1 OFF = 0



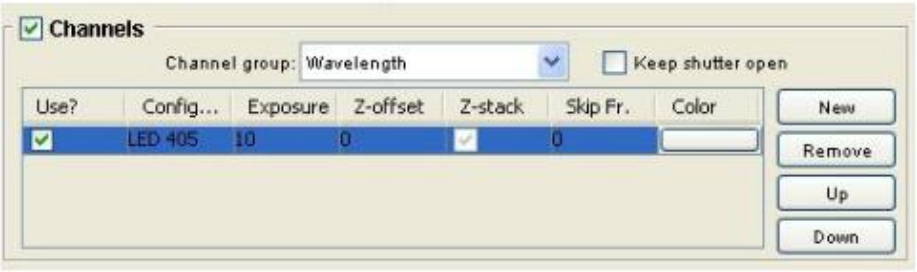
LED Wavelength Selection.

Using Multi Dimension Acquisition

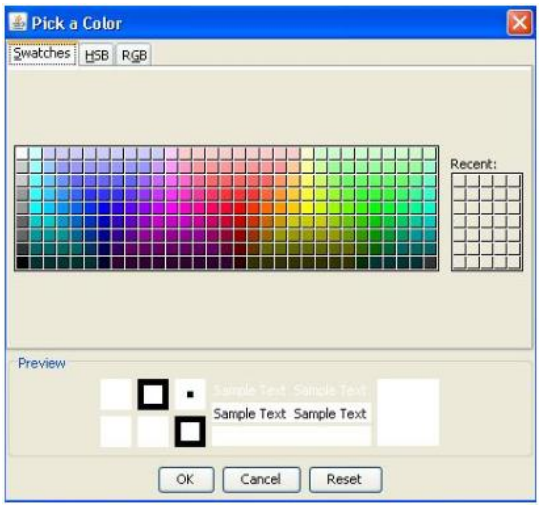




- Use Channels Window to add multi wavelength to your experiments.
- Under Channel Group select ‘Wavelength’
- Click New to add a new channel
- A new channel will now be added into the ‘Channels’ box.
- Here you can pick your LED wavelength, eg LED 405, LED 490, LED 525, LED 590



Click on the white box below 'Color' to assign and image colour to your channel.



Complete the above process to add as many channels as you wish.