

MONOCHROMATOR

USB install: MetaMorph / MetaFluor

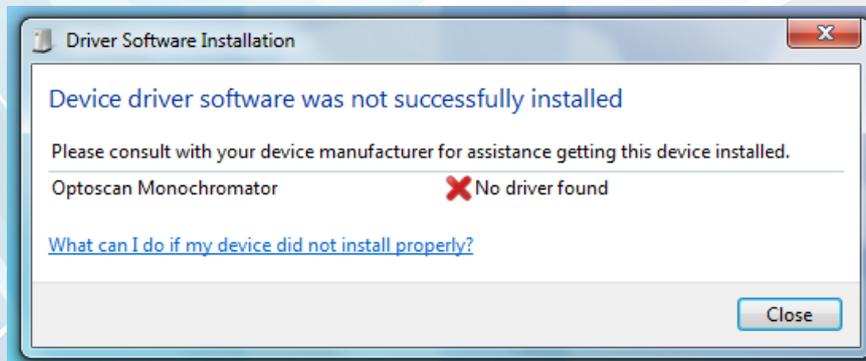
This guide details how to install and configure the Cairn OptoScan via USB drivers (Windows 64-bit) in the following software:

- MetaMorph / MetaFluor (Molecular Devices)

Please do not hesitate to contact us if you have any issues with installation or location of drivers.

A) Installing the OptoScan USB drivers

1. Connect all hardware and turn on the OptoScan power supply. The following message will appear:

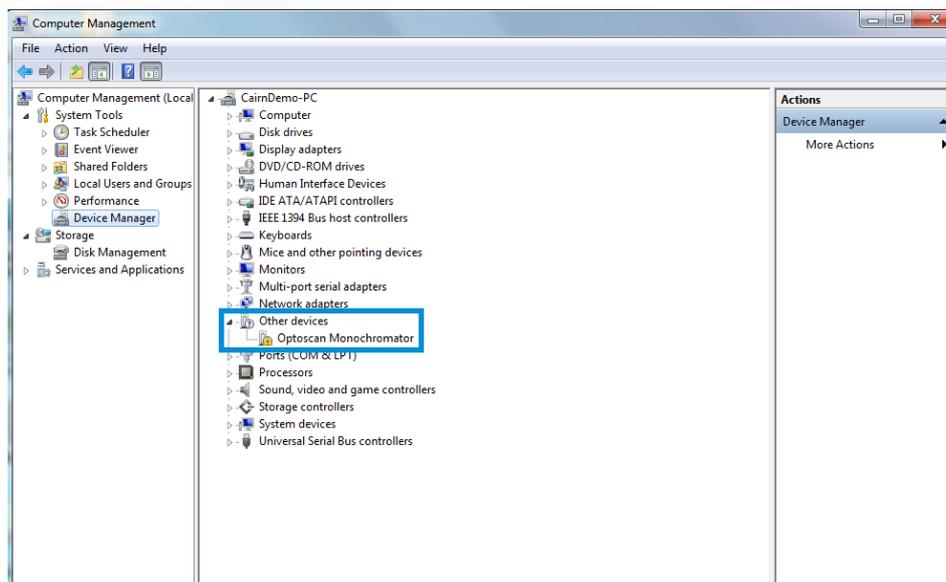


2. The required USB drivers will be included with your order on a Cairn USB stick. Alternatively, these can be downloaded from the Software Support page on our website:

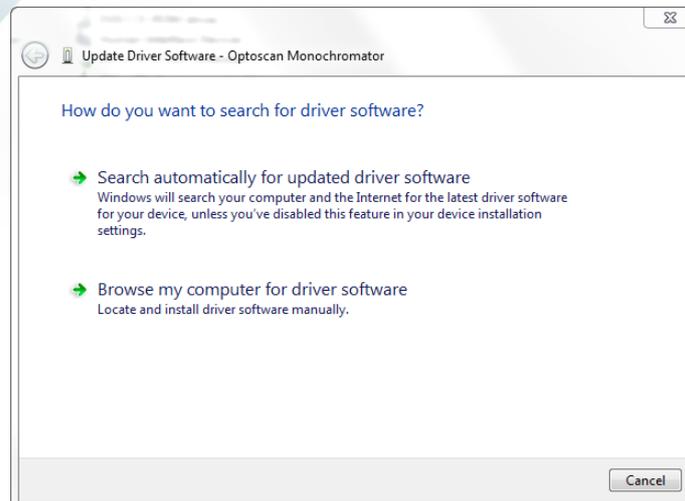
<https://www.cairn-research.co.uk/support/software/>

Locate and unzip (if appropriate) the '**OptoScan Test Program (osDac 2019)**' folder.

3. Open 'Device Manager' in Windows and right click on 'Optoscan Monochromator'. Select 'Update Driver Software'.



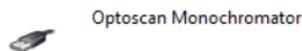
4. Select 'Browse my computer for driver software' and choose the saved 'OptoScan USB drivers' folder



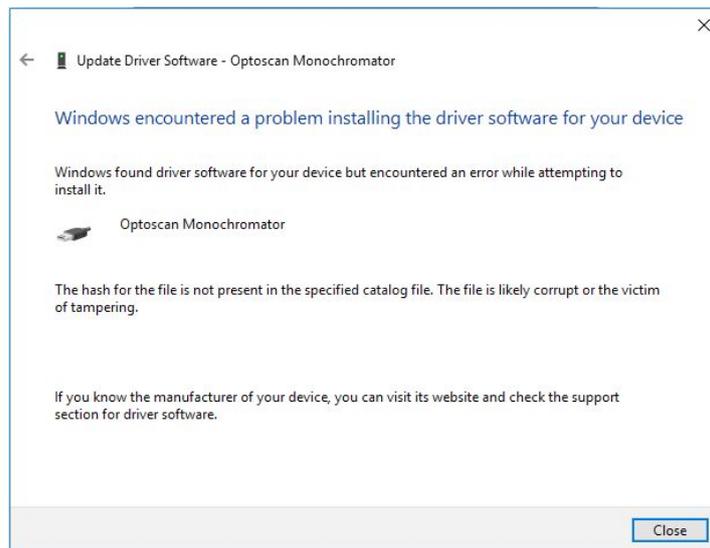
5. The following message should appear and the Optoscan will now be listed as a USB device in Device Manager:

Windows has successfully updated your driver software

Windows has finished installing the driver software for this device:



6. When using Windows 10, an additional setup procedure is required to satisfy Windows security settings. If so, the following error message will occur:



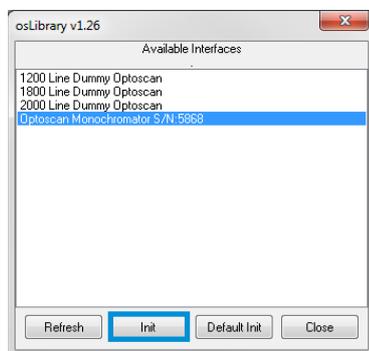
7. To resolve, restart the PC whilst holding down the shift key. When Windows restarts, complete the following:
Options > Troubleshoot > Advanced Options > Startup settings
Click 'Restart', select F7 when prompted (Disable driver signature Enforcement)
Repeat steps 1 – 5 and select 'Install this driver software anyway' when prompted
USB installation should now be successful.

B) Testing the USB OptoScan in osDAC (Independent Cairn control software)

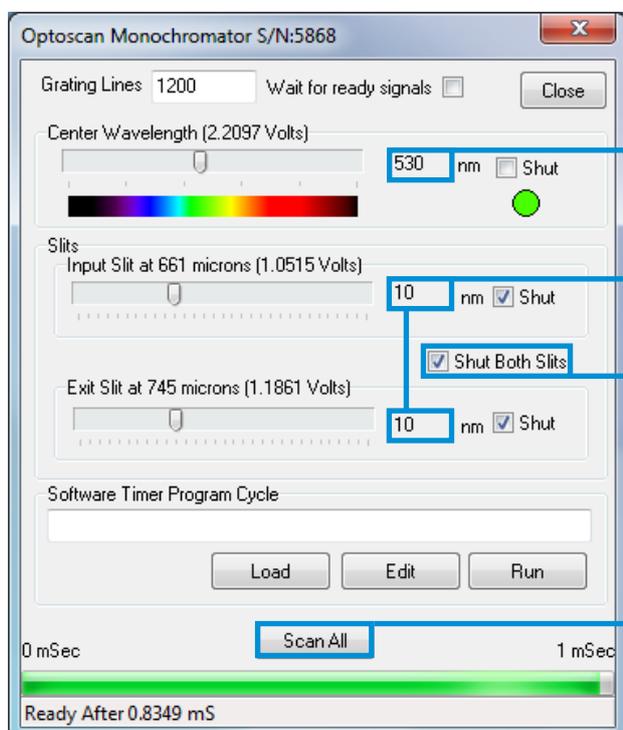
1. Locate the osDAC software, which will also be included on a USB stick or can be found on our Software Support page: <https://www.cairn-research.co.uk/support/software/>
Locate and unzip (if appropriate) the folder 'OptoScan test program' - 64-bit and 32-bit versions are included.
2. Run the Application 'osDAC'.
(It is also useful to create a shortcut to the application on your desktop)

Name	Date modified	Type	Size
 osDAC	19/11/2015 09:52	Application	2,173 KB
 osDACDummy.dll	19/11/2015 09:52	Application extens...	603 KB
 osDACUSB.dll	19/11/2015 09:52	Application extens...	222 KB
 osLibrary.dll	19/11/2015 09:52	Application extens...	1,611 KB
 Readme	19/11/2015 09:52	Text Document	1 KB

3. Providing the connection has been successful, the serial number of the attached unit will be selectable.
Click on Initialize ('Init')
Please note: the 'Dummy' programmes provide a simulated osDAC interface with no hardware control



4. Test the OptoScan connection by entering a centre wavelength and appropriate bandwidth:



Wavelength selection
(typically 300nm to 700nm)

Bandwidth selection
(0nm to 30nm)

Shutters both the input and exit slits
when toggled

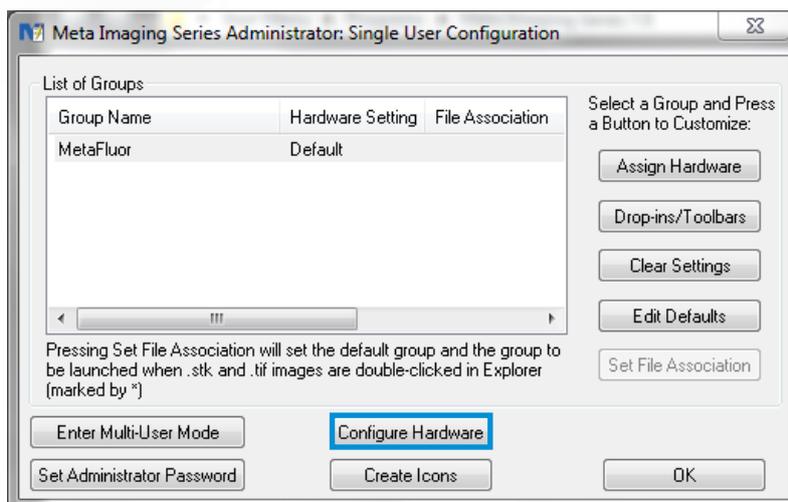
Runs a scan protocol incrementally through all
wavelengths

**** IMPORTANT SAFETY NOTE ****

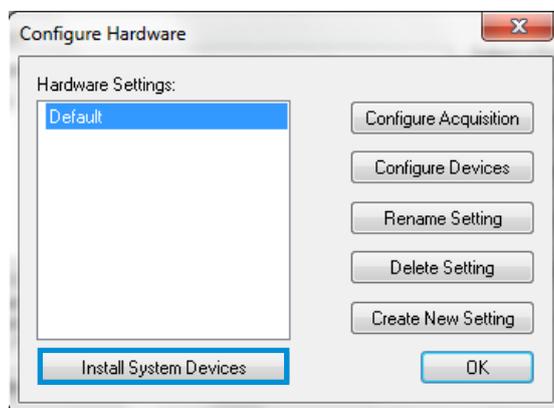
Never look directly at the light guide output – always shine the output onto a surface or piece of paper when the light guide has been disconnected from the microscope coupling.

C) Hardware installation in MetaMorph / MetaFluor

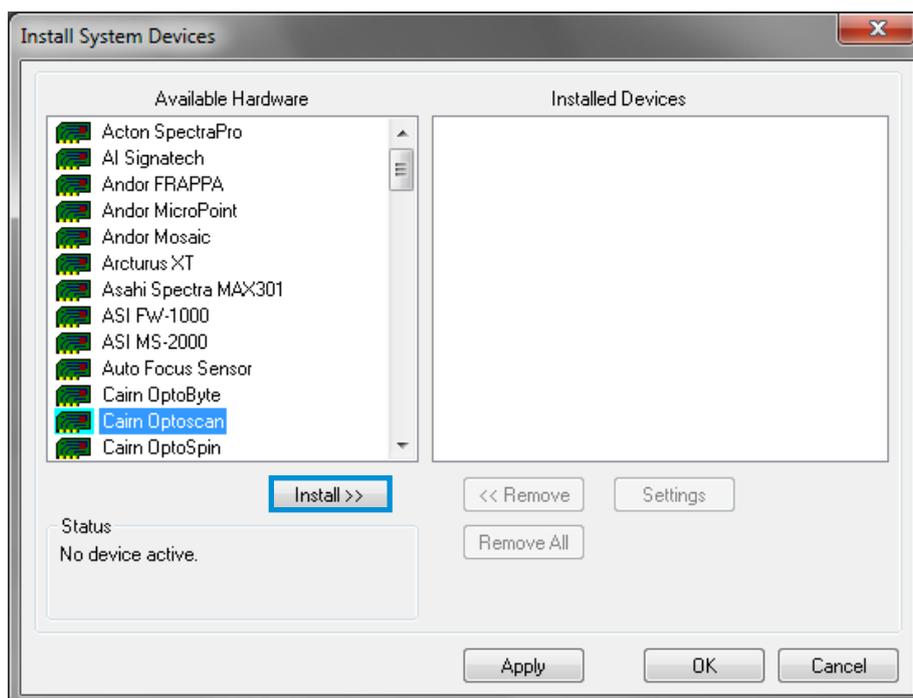
1. Turn on the OptoScan power supply and open 'Meta Imaging Series Administrator'
Select 'Configure Hardware'



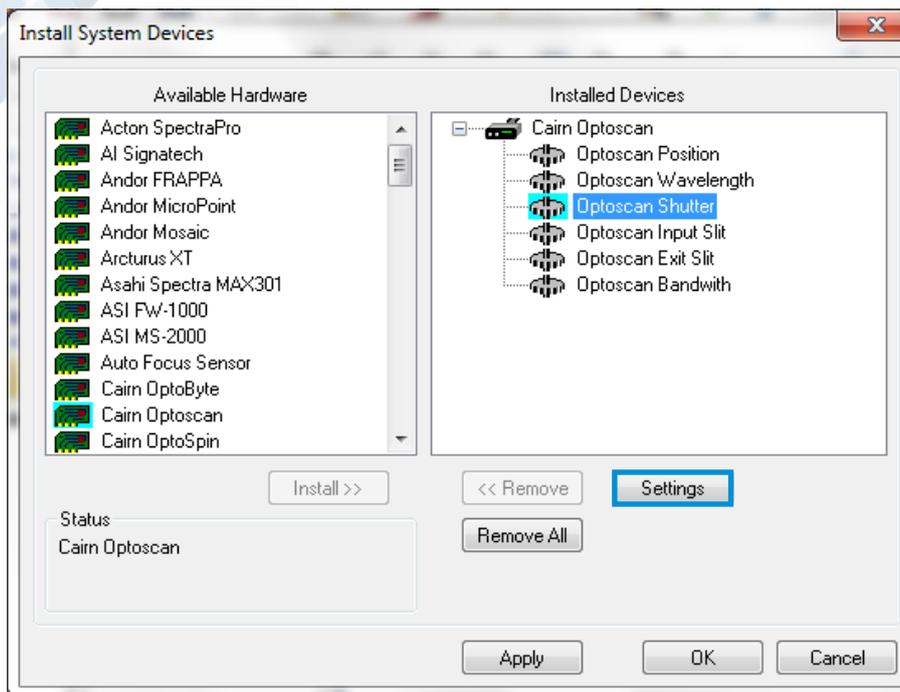
2. Select 'Install System Devices'



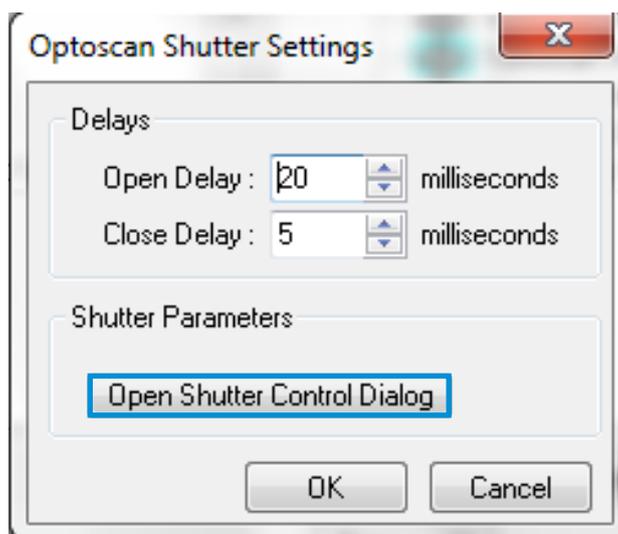
3. Choose 'Cairn Optoscan' from the list of Available Hardware and click 'Install'



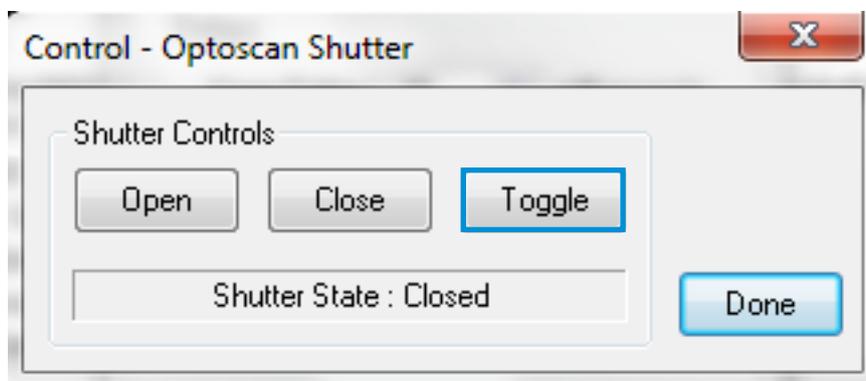
4. A list of parameters will now be displayed and can be tested to ensure the connection with the OptoScan has been achieved. Highlight 'OptoScan Shutter' and select 'Settings'



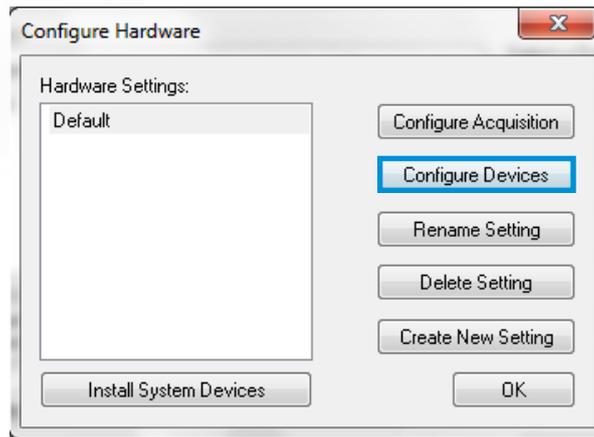
5. Select 'Open Shutter Control Dialog'



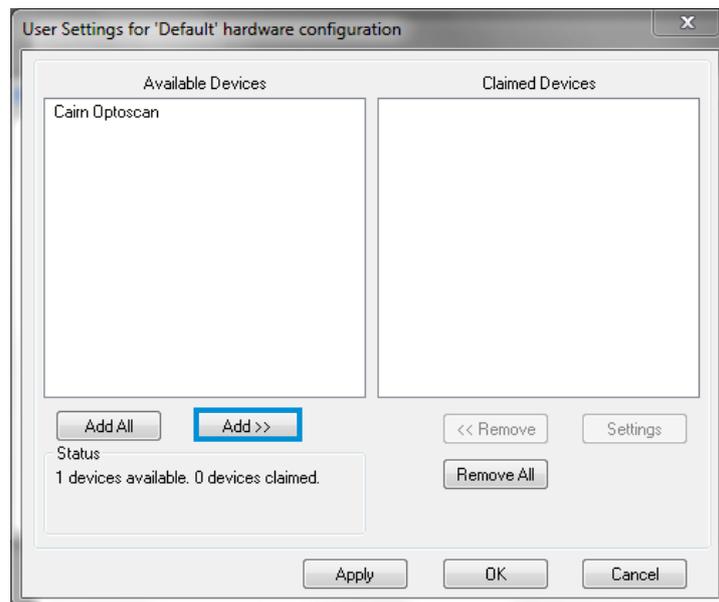
6. 'Toggle' should open and close the OptoScan shutter, which will be audible if USB connection has been successful.



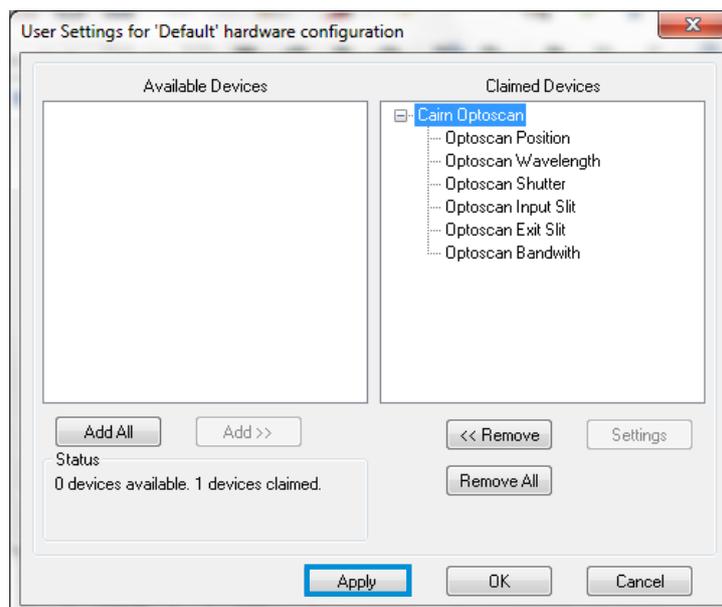
7. Click 'Apply' and 'OK' close 'Install System Devices' (once all additional hardware for your system has also been installed) and select 'Configure Devices' to ensure this hardware is active in your MetaMorph / MetaFluor session.



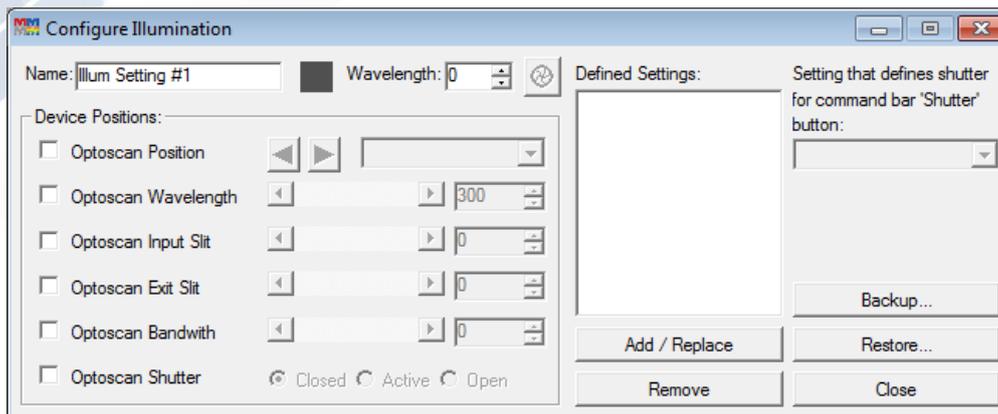
8. Highlight the appropriate hardware from 'Available Devices' and add these to 'Claimed Devices'



9. All available OptoScan parameters should now be active and listed in 'Claimed Devices'. Click 'Apply' and then close Meta Imaging Series Administrator.

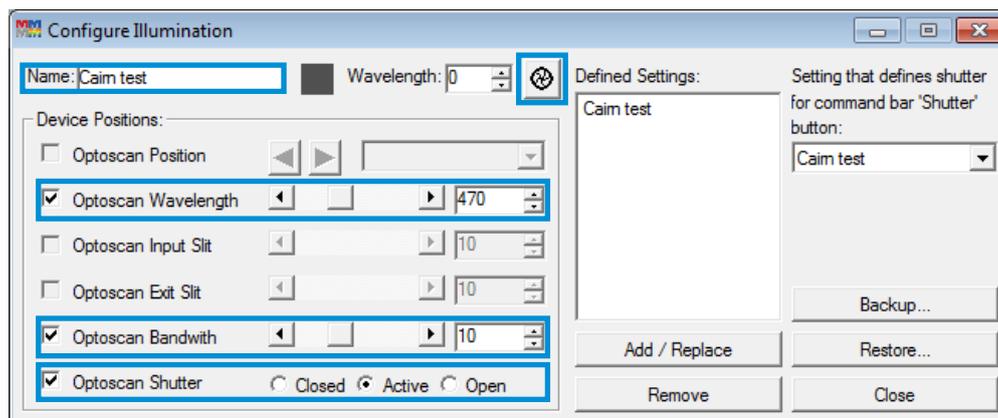


10. Open your main imaging software package (MetaMorph or MetaFluor).
 Select 'Configure Illumination' to define illumination settings for each of your fluorophores. This option can be found in the 'Devices' menu in MetaMorph and the 'Configure' menu in MetaFluor.



11. Name your configuration appropriately, tick and edit the relevant OptoScan parameters below:

- **Wavelength** - Our standard monochromator operates between 300nm and 800nm
- **Bandwidth** - Defined between 0nm and 30nm
- **Shutter** - 'Active' will ensure the shutter opens when the camera goes live / acquires an image.
- **(Input Slit & Exit Slit)** - These parameters can be individually defined if required. The 'Bandwidth' option will ensure both the input and exit slit open to the same width. This is the standard operating mode, so keep these individual parameters unchecked.
- The shutter icon can then be used to test the defined illumination settings



For further assistance, please do not hesitate to contact our Tech support team:
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