



Quick Start Guide - Andor IQ

IQS001- Rev 02

Issue Date: 25/05/2017

1 Integrated CoolLED Products:

- pE-2
- pE-300^{white}, pE-300^{ultra} & pE-340^{fura}
- pE-4000

2 Setting up your CoolLED Illumination System COM Port via USB:

1. The CoolLED driver file should be downloaded from the CoolLED website:

<http://www.coolled.com/product-detail/imaging-software/>

N.B. This is a general driver for Windows machines and all USB controlled CoolLED Illumination Systems (pE-2, pE-300 Series & pE-4000).

2. Save the files (.inf and certification files) to a preferential location on your Computer (e.g. Desktop).
3. When the CoolLED Illumination System is plugged in, it will appear with a driver required warning (Yellow exclamation mark). Right click and 'update' the driver, pointing it to the previously downloaded directory containing the .inf file.
4. Once the CoolLED Illumination System has been successfully installed into Windows, check the Virtual COM ports assigned by going into Device Manager. The CoolLED device should be listed under 'Ports' (COM & LPT):

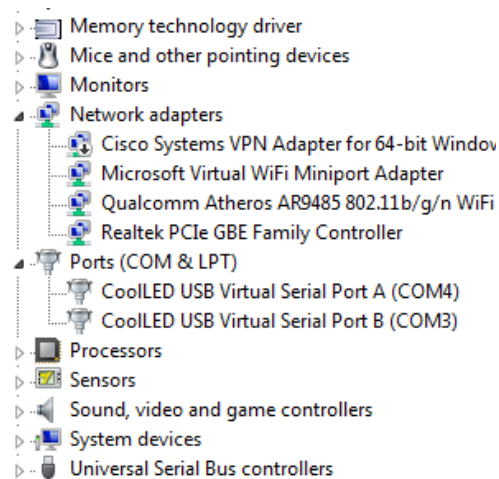


Figure 1: Device Manager with a pE-4000 installed.

Either COM port may be used for control. The creation of two COM ports is to allow for multiple uses (for example: one could be used for controlling the CoolLED Illumination System whilst the other is used for command testing). Additionally, it allows for ease of use if there is a COM port conflict.

3 Configuring your Illumination System in Andor IQ

3.1 Installing a CoolLED Illumination System in Andor iQ

- To begin installation, open the 'Device Configuration Manager', which is a sub-program of Andor IQ and has a different icon.

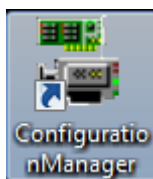


Figure 2: Windows Icon

- 'Device Configuration Manager' may list some current Configurations as below: in the below example, the 'precisExcite CoolLED' has been previously installed. If a CoolLED Illumination System has not been added to an existing configuration, it can be by using the 'Edit' option. If it is completely fresh install, click 'New' to create a new configuration.

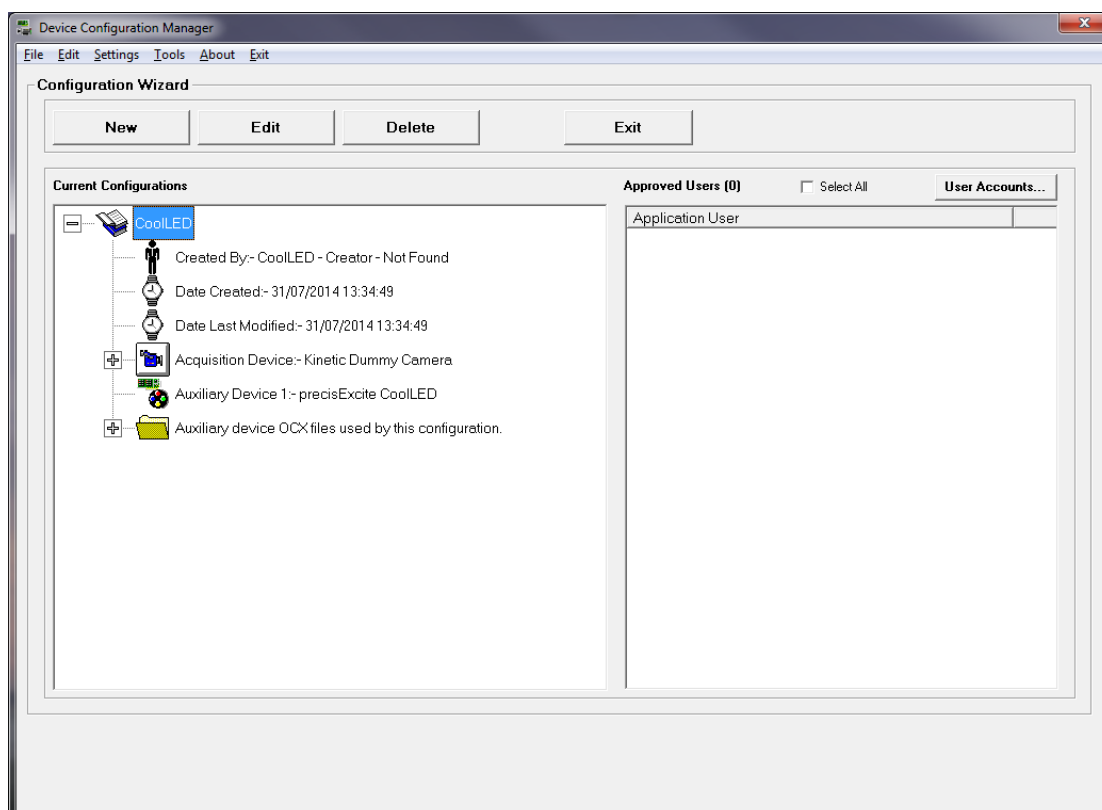
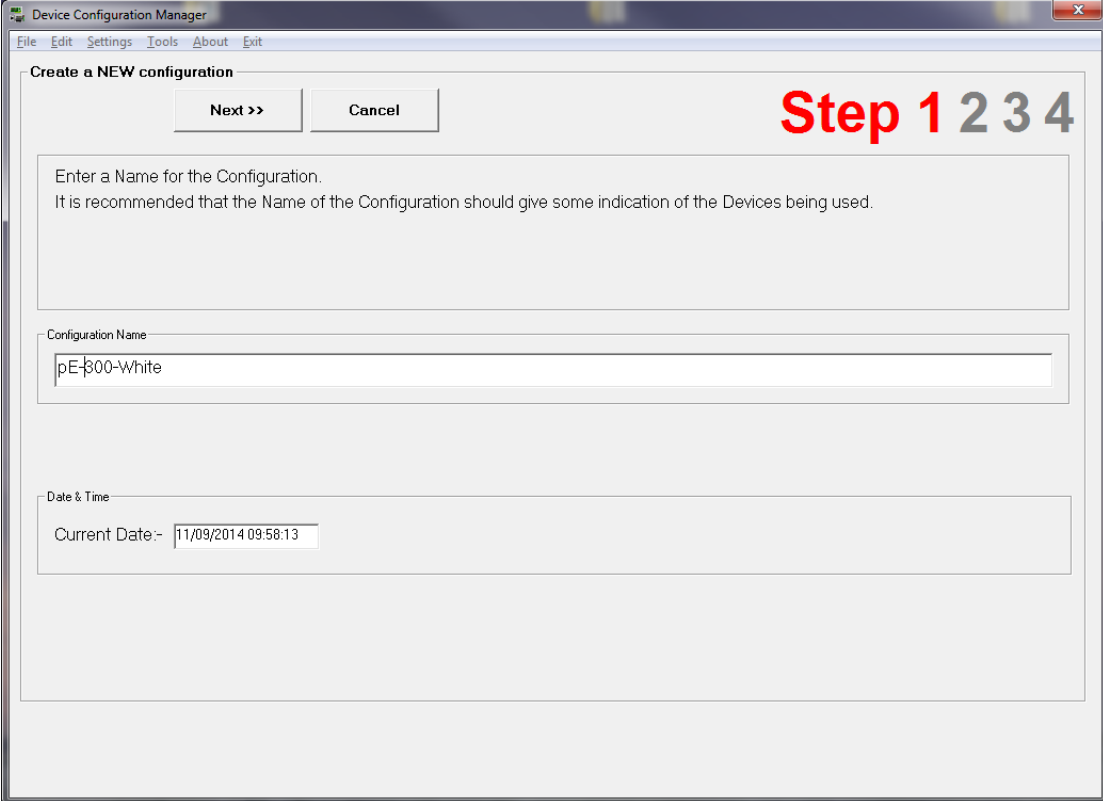


Figure 3: 'Device Configuration Manager'

1. Within the 'Configuration Wizard', press the 'New' button. Enter the name for the new configuration as in the screen shot below:



Device Configuration Manager

File Edit Settings Tools About Exit

Create a NEW configuration

Next >> Cancel

Step 1 2 3 4

Enter a Name for the Configuration.
It is recommended that the Name of the Configuration should give some indication of the Devices being used.

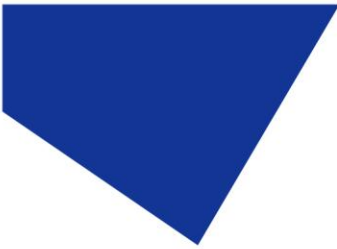
Configuration Name

pE-300-White

Date & Time

Current Date:- 11/09/2014 09:58:13

Figure 4: Creating a New Configuration



2. Select a Camera from a list of available cameras. In this example a dummy camera is chosen.

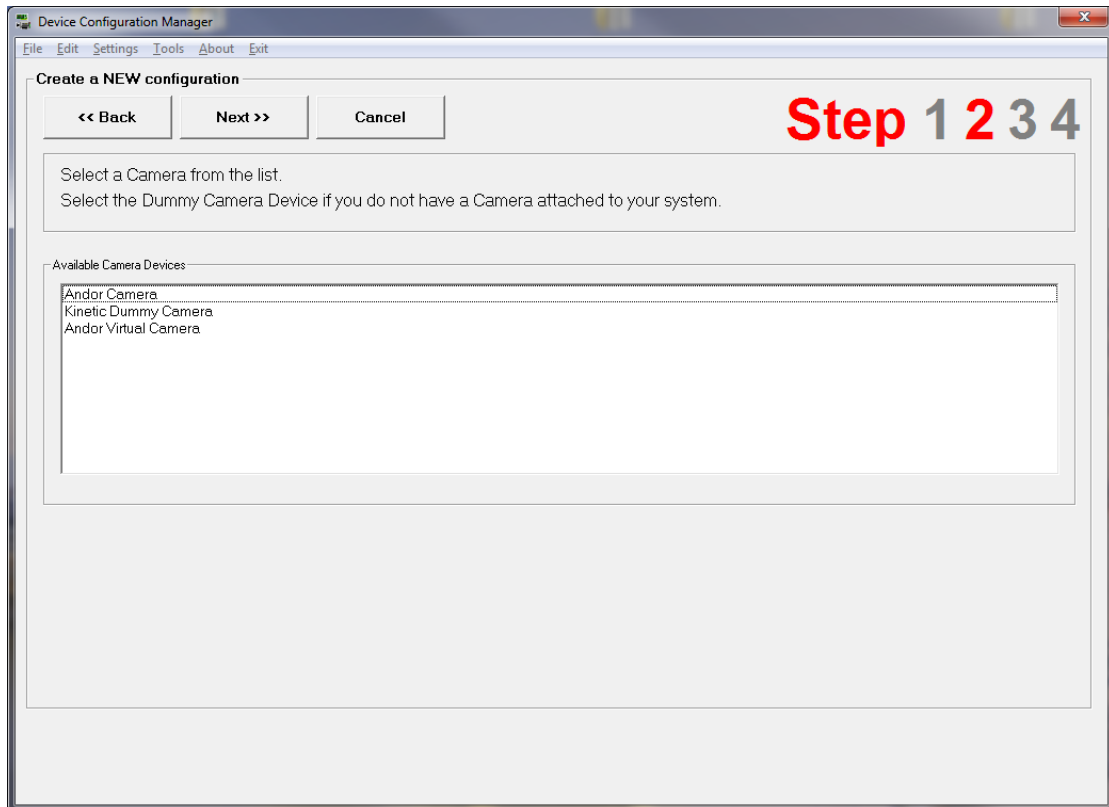


Figure 5: Addition of Cameras

3. Step 3 allows the required devices to be selected. For the pE-2 you will need to check the 'precisExcite CoolLED', whilst for the pE-300 Series and pE-4000 please check the 'Andor Generic LED' box. Remember to add any other devices as needed.

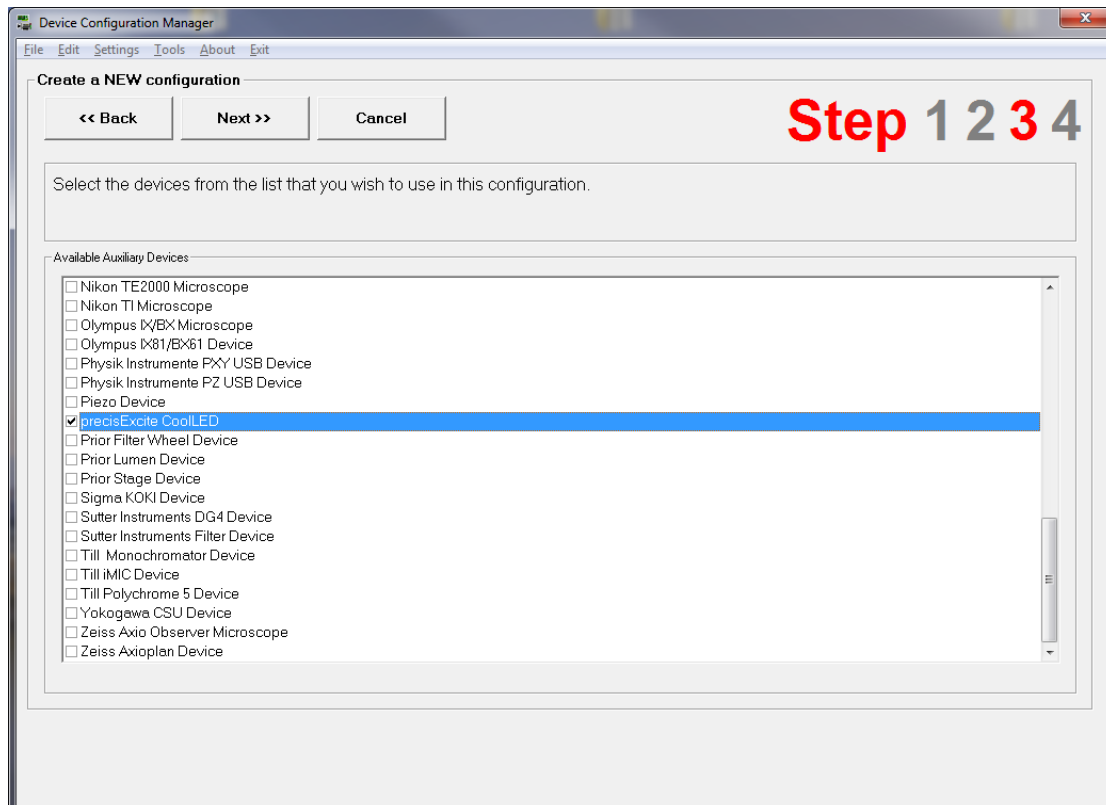


Figure 6: Selection of precisExcite CoolLED Device

- ☐ Andor AMH Device
- ☐ Andor APZ Device
- ☐ Andor DSD Device
- ☐ Andor Filter Wheel
- ☐ Andor FRAPPA Device
- ☐ Andor Generic LED
- ☒ Andor Generic LED2 (second unit)
- ☐ Andor Generic Shutter Device
- ☐ Andor Laser Combiner
- ☐ Andor MicroPoint Device
- ☐ Andor MMD
- ☐ Andor Mosaic Device
- ☐ Andor Mosaic Laser Control
- ☐ Andor UVPulsed Laser
- ☐ Andor/Spectral Integrated Laser Engine
- ☐ Andor/Spectral Integrated Laser Engine 2 (second unit)
- ☐ ASI Filter Wheel Device
- ☐ ASI Stage Device
- ☐ ASI2 XYZ and Filter Wheel
- ☐ Atto K1AttoAIC Device

Figure 7: Andor Generic LED Device, which should be selected if using the pE-300 Series or the pE-4000

4. Step 4 gives a Configuration Summary. Check the registration box at the bottom of the screen and then click on Finish.

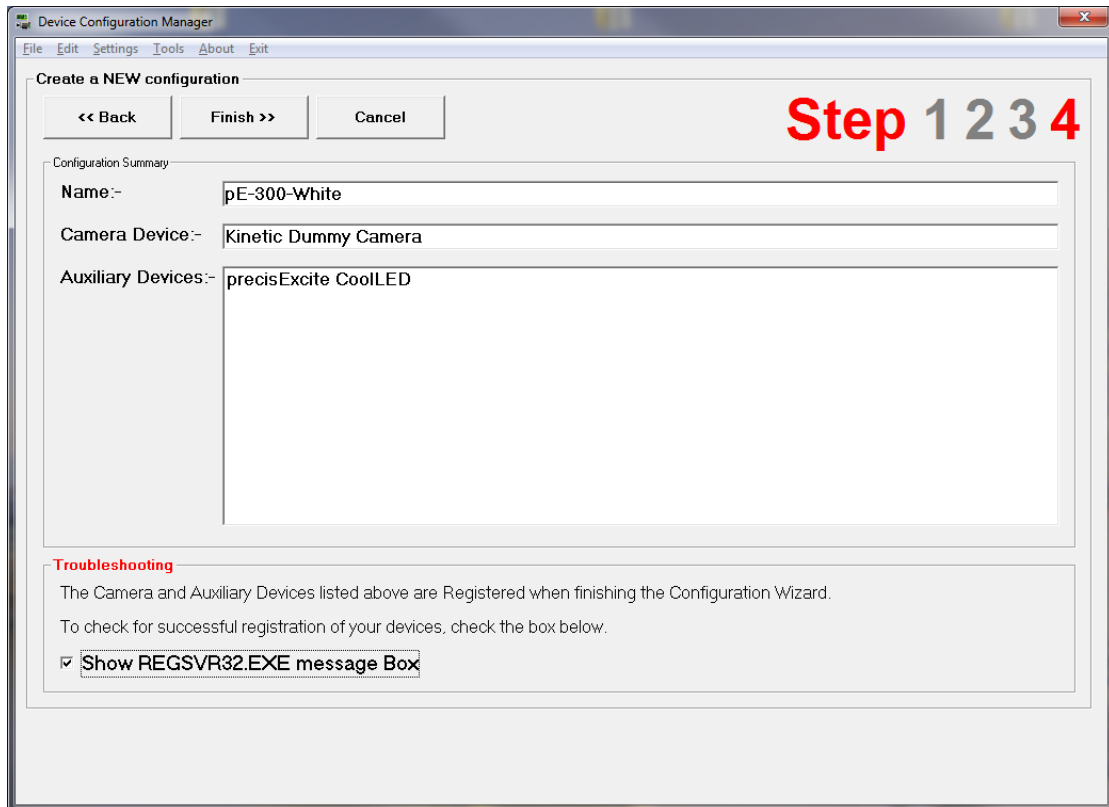
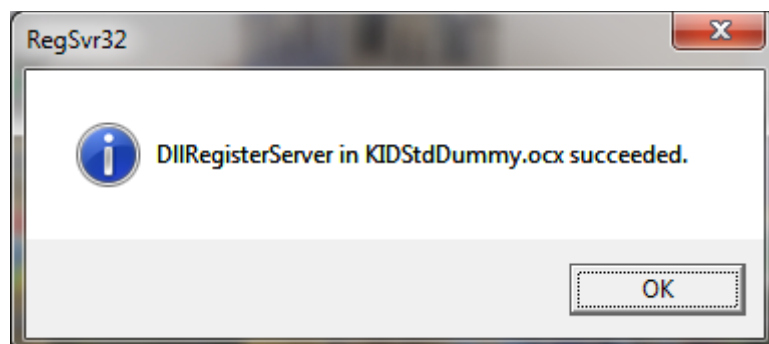


Figure 8: 'Configuration Summary'

5. You should get some pop-ups confirming that the chosen devices are registered successfully, and the configuration will appear in 'Device Configuration Manager'.



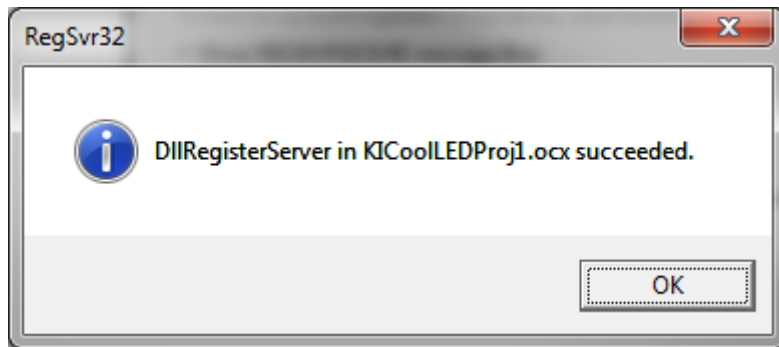
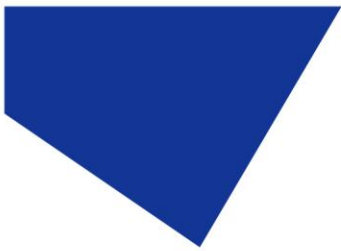


Figure 9: Pop-Up to confirm successful registration

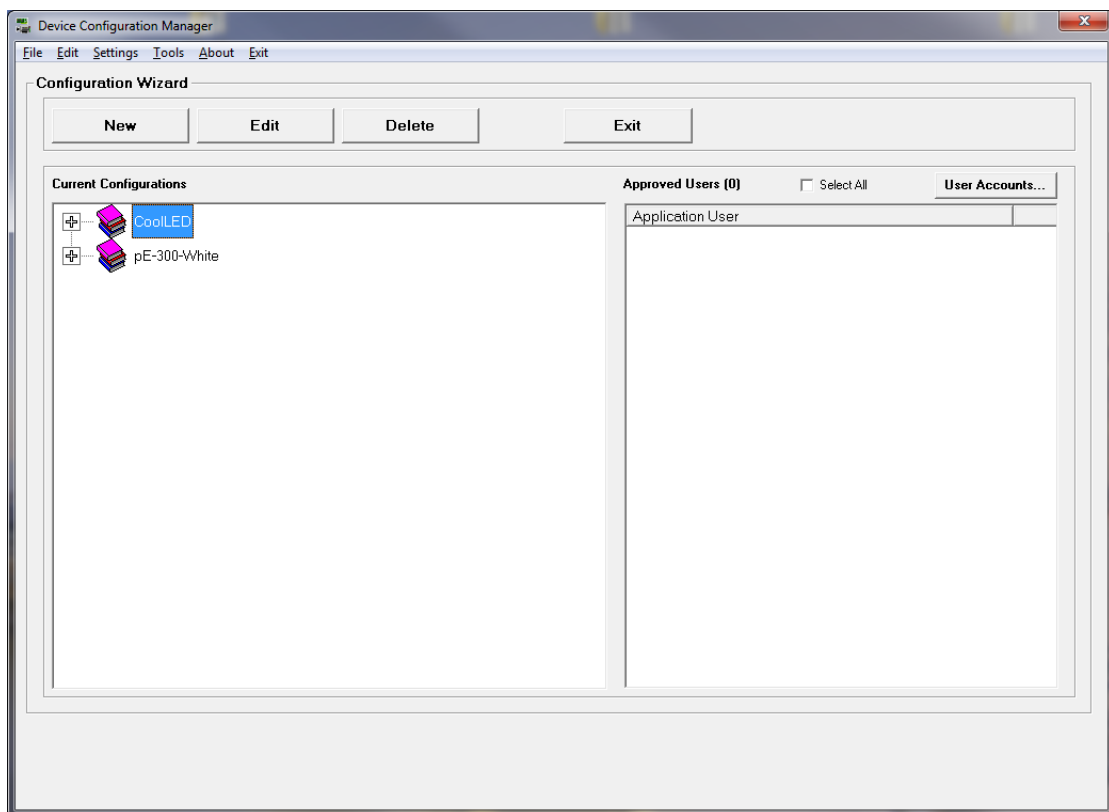


Figure 10: Completed Installation in 'Device Configuration Manager'

6. You are now ready to exit from the Device Configuration Manager and run Andor IQ.

4 Running Andor iQ

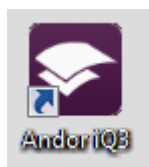


Figure 11: Andor iQ Icon

Run Andor iQ3 with the CoolLED Illumination System switched on and connected to the host PC by the USB cable. The Registration screen will appear where the Configuration can be selected from the drop down list.

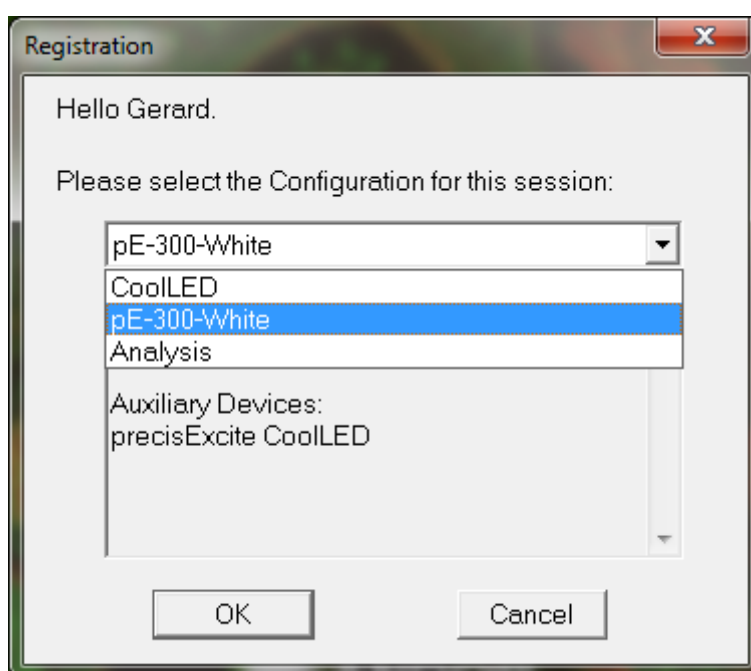


Figure 12: Registration Screen

You can now select the configuration that you previously set up and press 'OK'. Three screens (shown in the next section) will appear and you are now ready to use your CoolLED product in Andor iQ.

5 Software Example Usage:

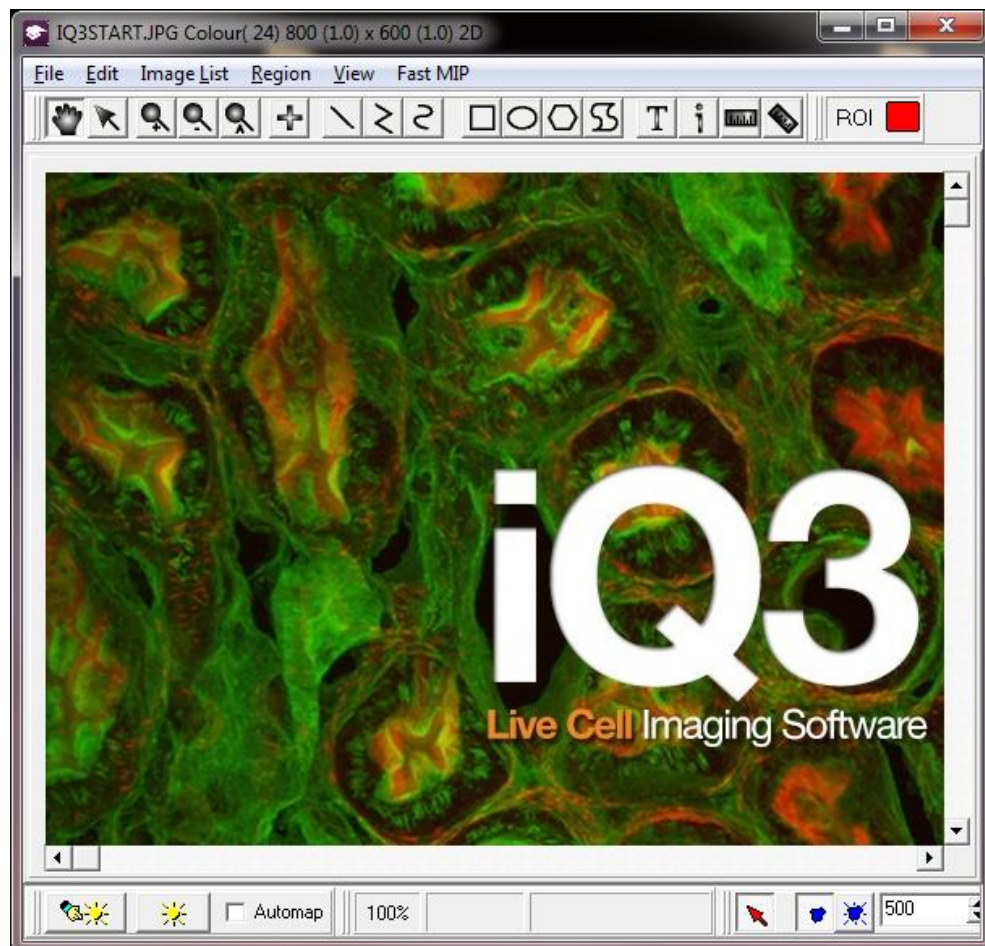


Figure 13: Image Screen

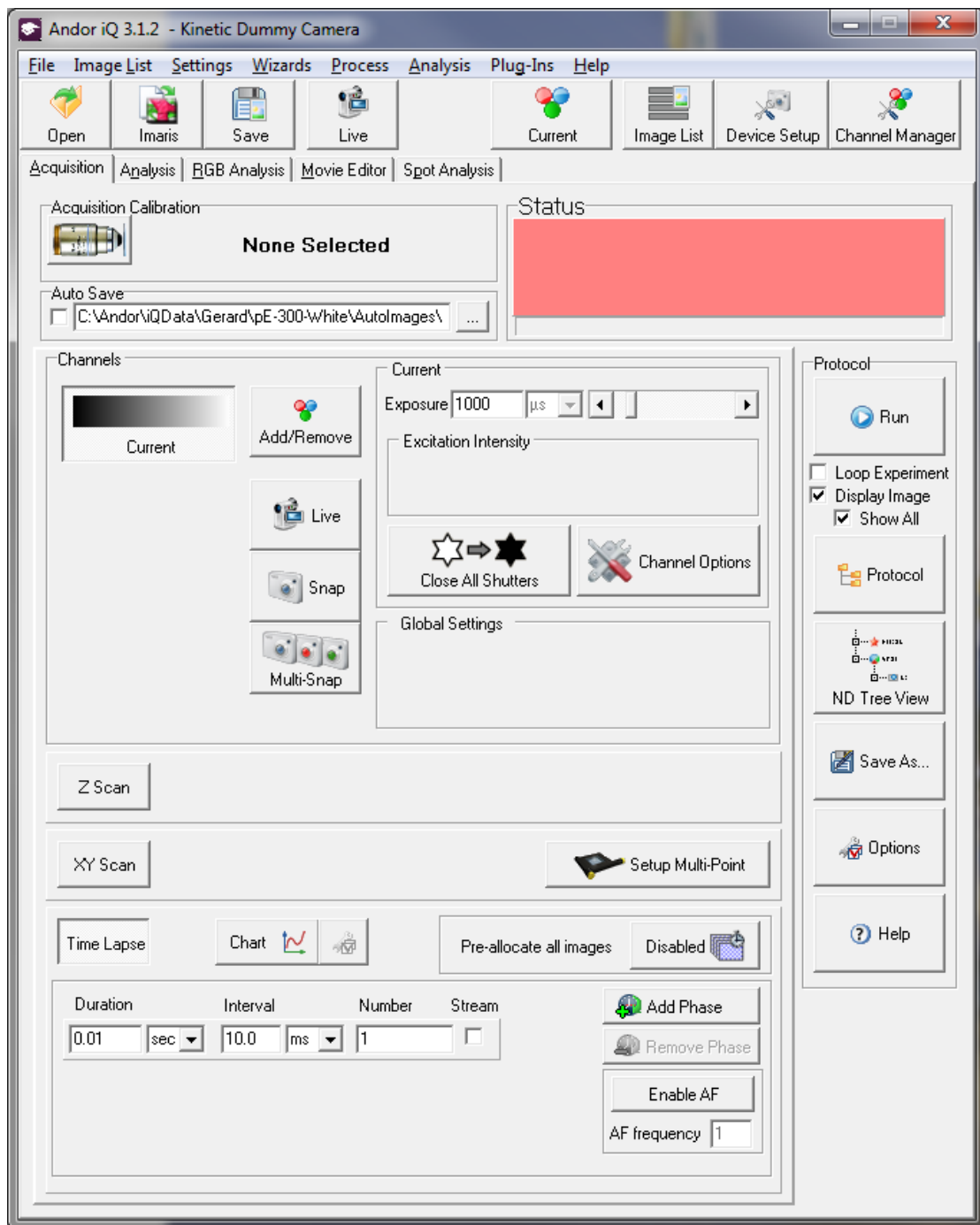


Figure 14: Camera Configuration

1. The 'Acquisition/Auxiliary Devices' screen is where the CoolLED Illumination System can be controlled:

This is what the pE-2 'Control' tab looks like:

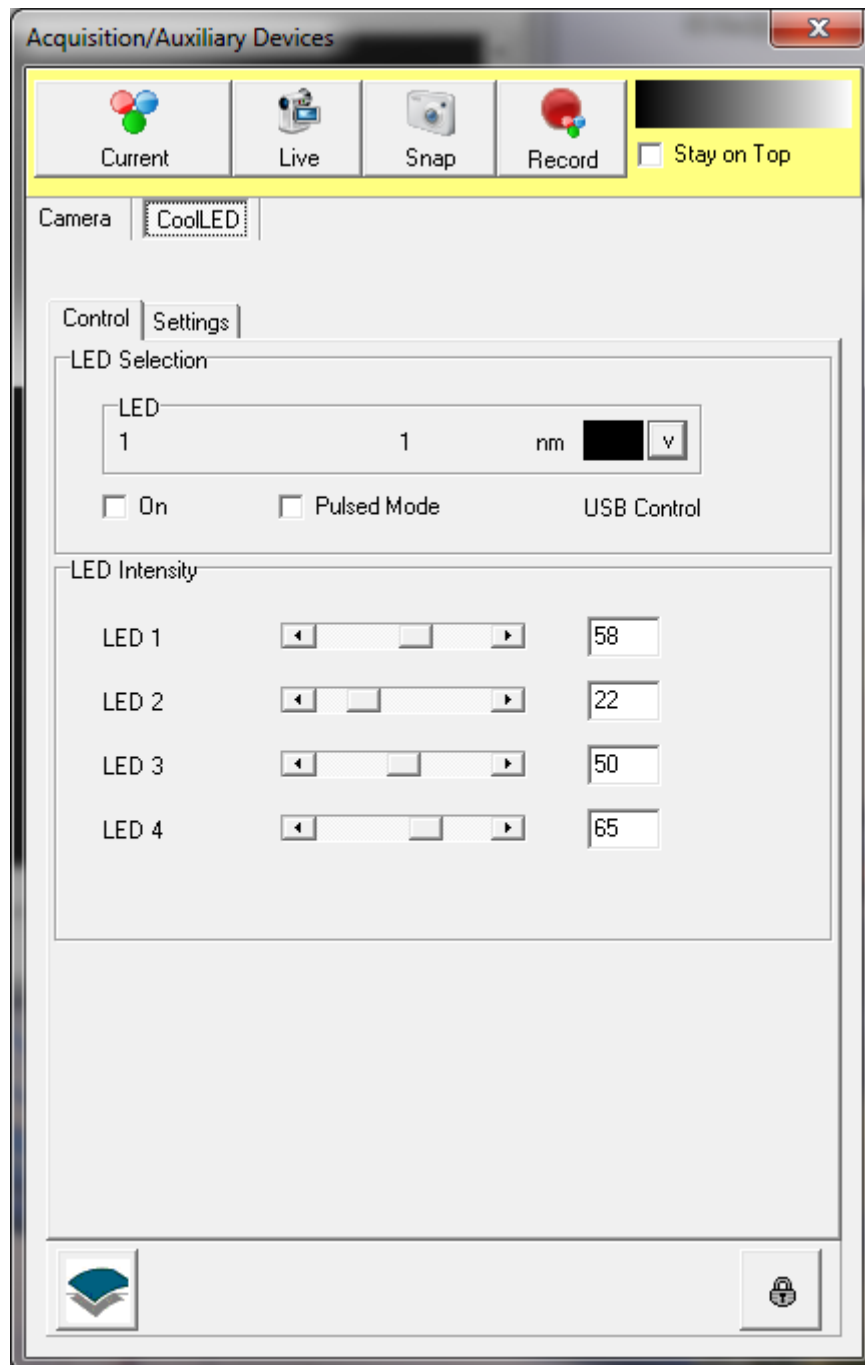


Figure 15: pE-2 in 'Acquisition/Auxiliary Devices'

For the pE-4000, there is an additional 'LED Selection' screen that enables a choice of the 16 wavelengths:

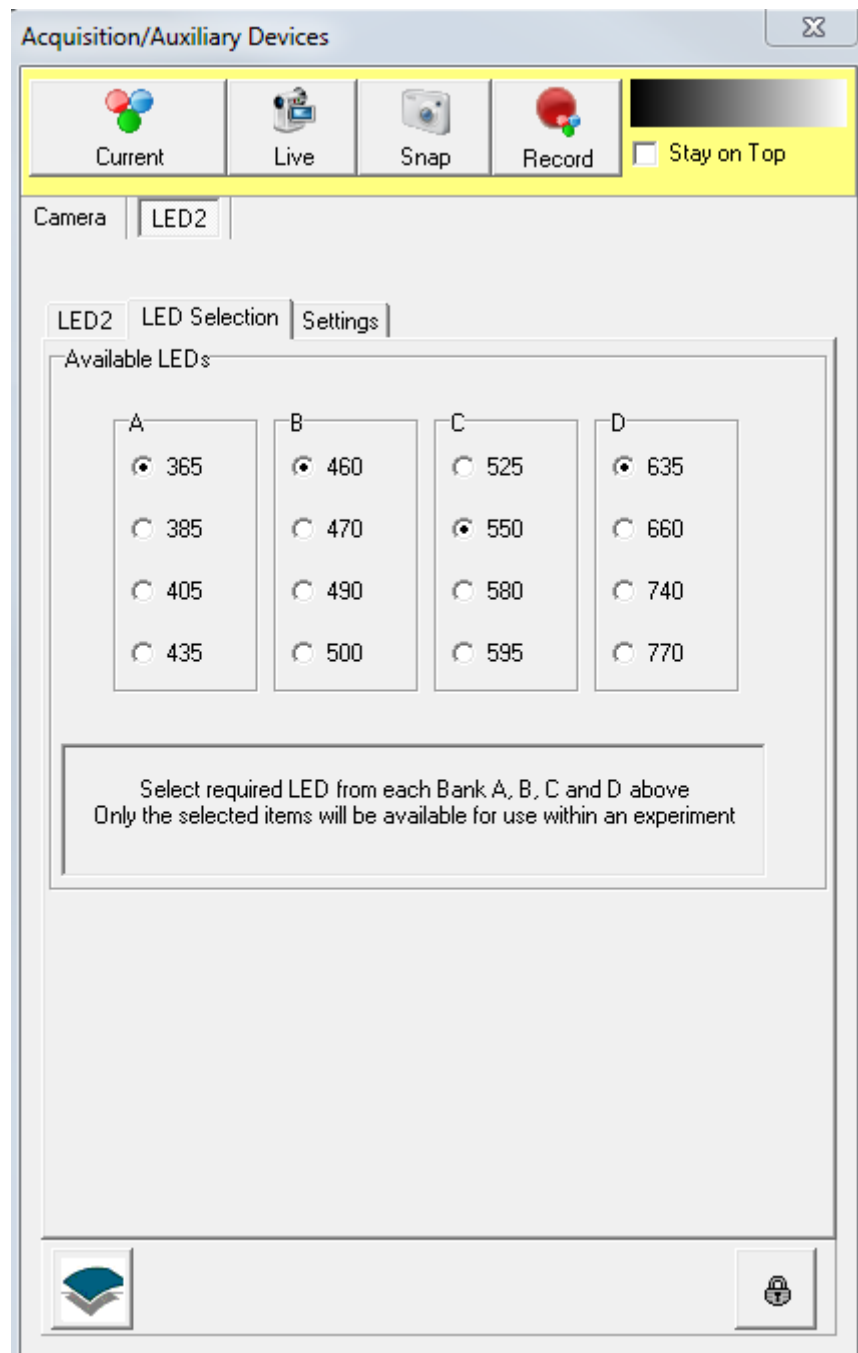


Figure 16: pE-4000 LED Selection in 'Acquisition/Auxiliary Devices'

After choosing your wavelengths they will appear in the 'LED' tab, ready for use.

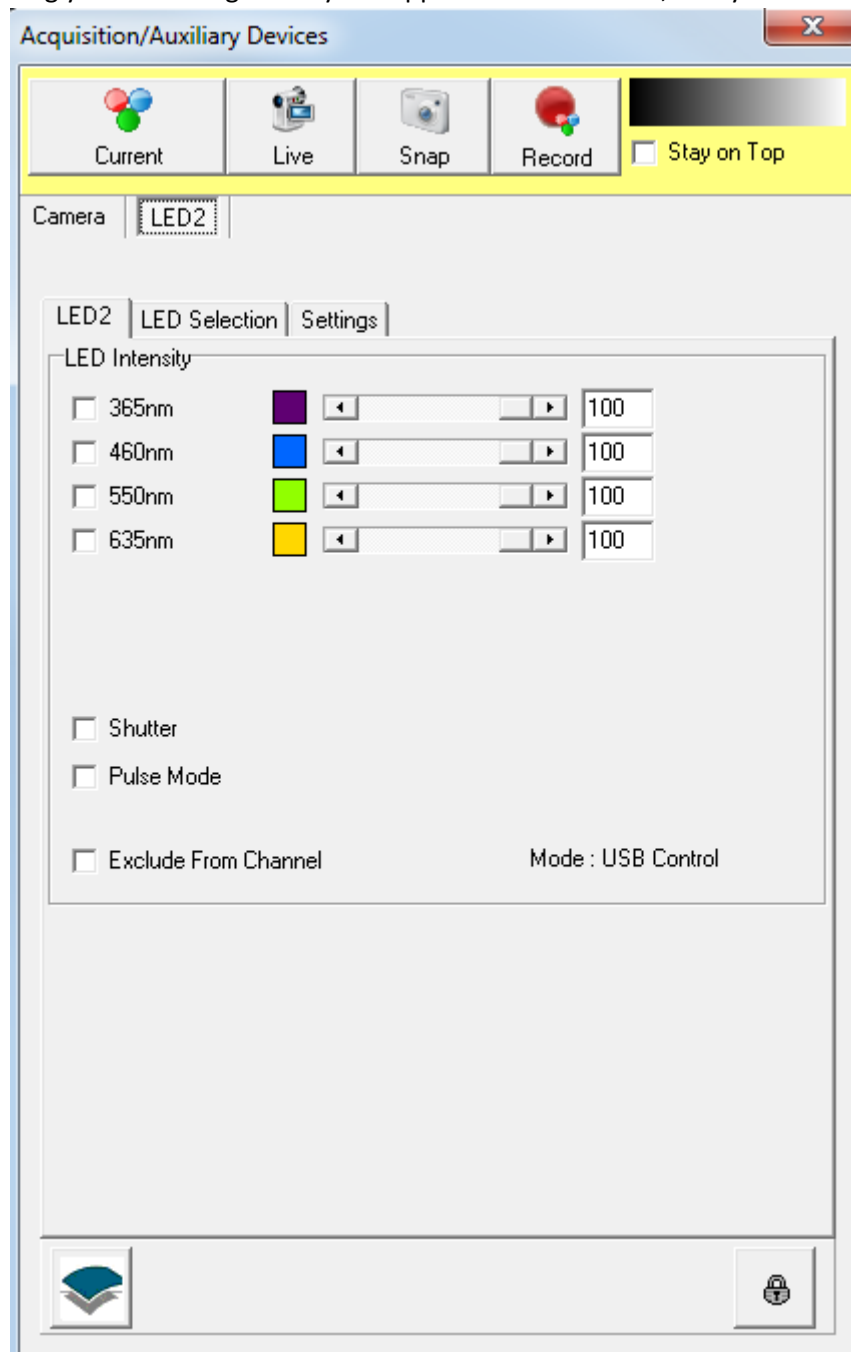


Figure 17: pE-4000 Intensity and Shuttering in 'Acquisition/Auxiliary Devices'

2. If the CoolLED Illumination System is connected before iQ is started, then the device should connect automatically. Check inside the Settings tab within the CoolLED tab (See Below). As shown in this case the CoolLED device is connected on COM4.

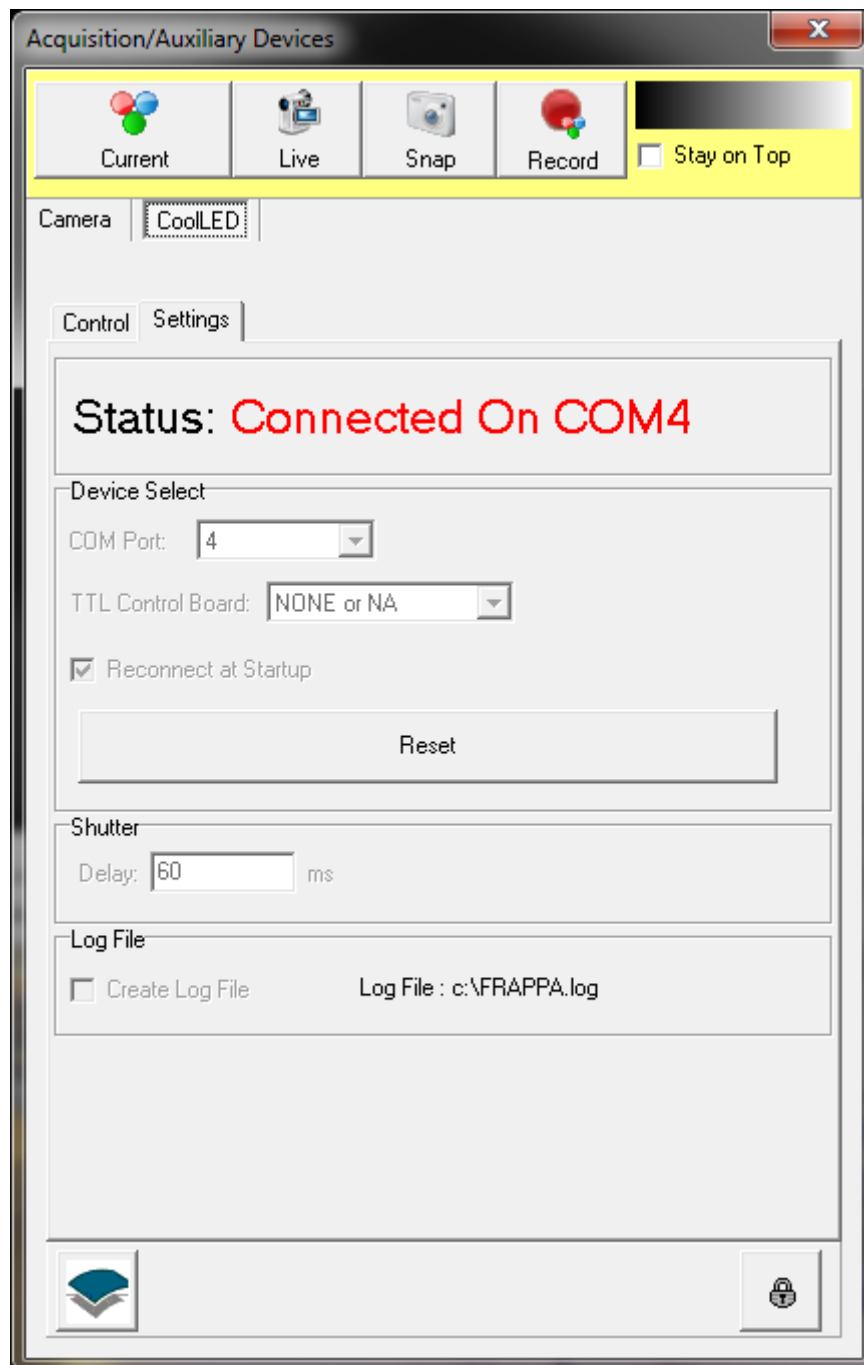
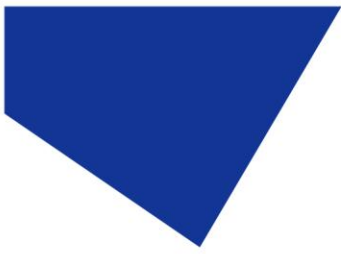


Figure 18: Checking COM port connection in 'Acquisition/Auxiliary Devices'



3. If the device has not connected for some reason you can manually select the correct COM port by first unlocking this screen by clicking on the padlock icon in the bottom right hand corner of the screen.
4. A pop-up warning will appear, simply press OK:

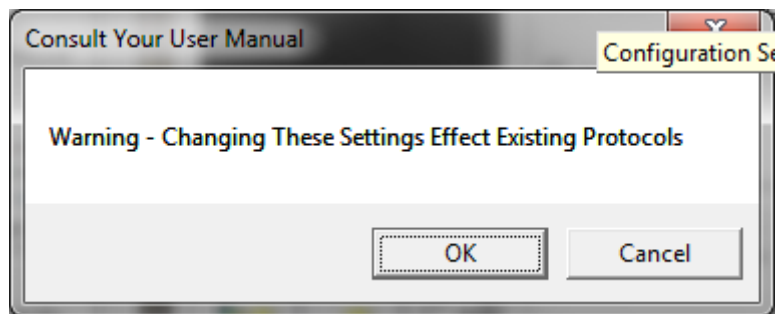


Figure 19: Pop-up encountered during COM port connection

5. An alternative COM Port can now be selected using the drop down list available. Once connected you can now re-lock this screen by clicking again on the padlock icon

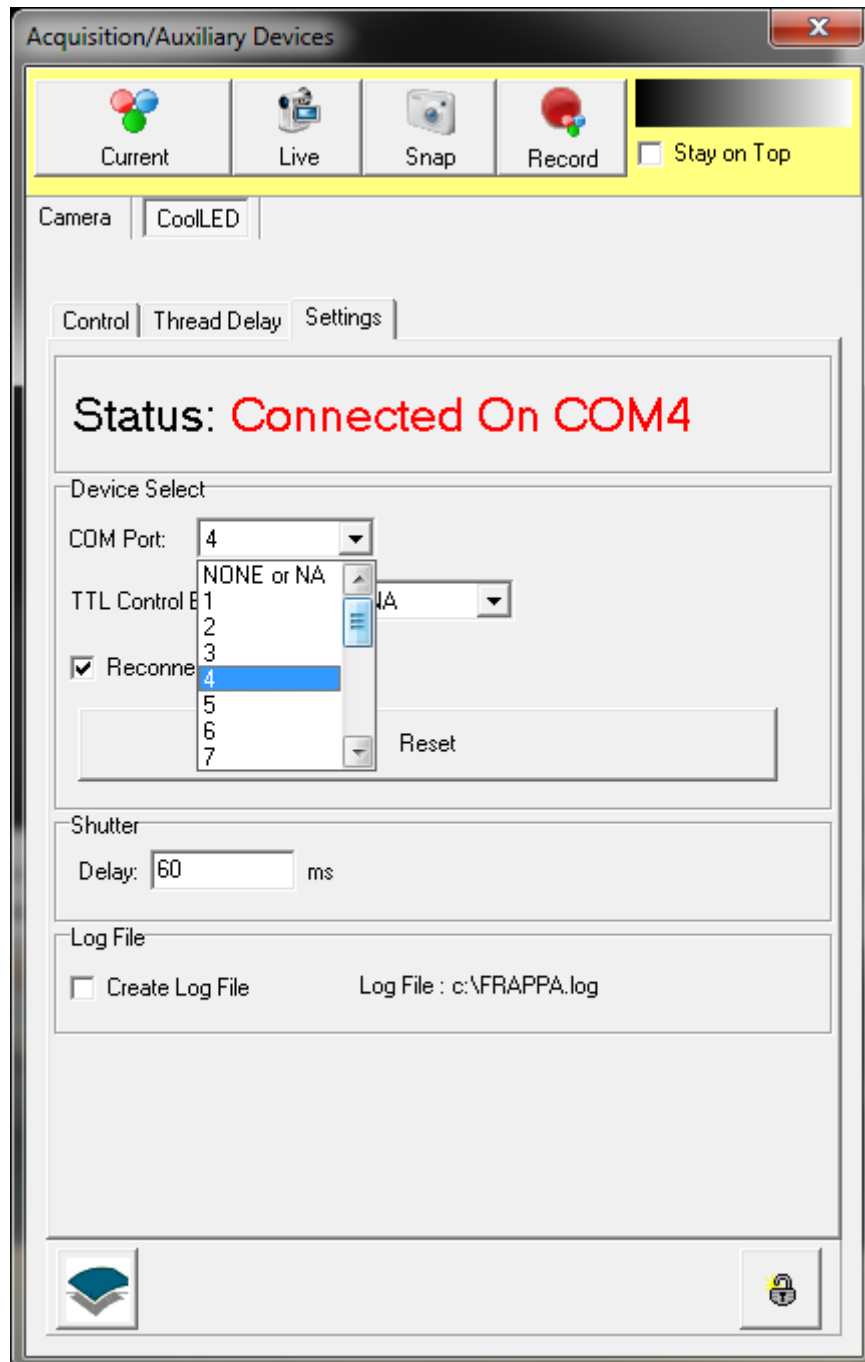


Figure 20: COM port selection in 'Acquisition/Auxiliary Devices'

6. Within the 'Control' tab, which is within the 'CoolLED' tab, you will see four channel control. Four channel control is shown even for the pE-300^{white} which only has 3 channels. The four channels are described as LED 1 to LED 4, and four intensity bars are given to allow the setting of intensity on each channel. Only one channel can be selected at any given time by using the drop down within the LED selection area.

7. The LED on the selected channel is switched on by checking the On box.

N.B. The Pulsed Mode box is only used for pE-2 units where the TTL In needs to be enabled.

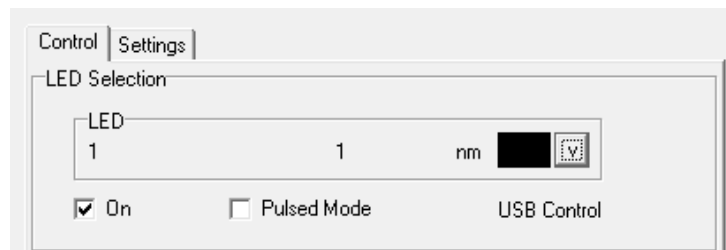


Figure 21: 'On' & 'Pulsed Mode' tick-boxes