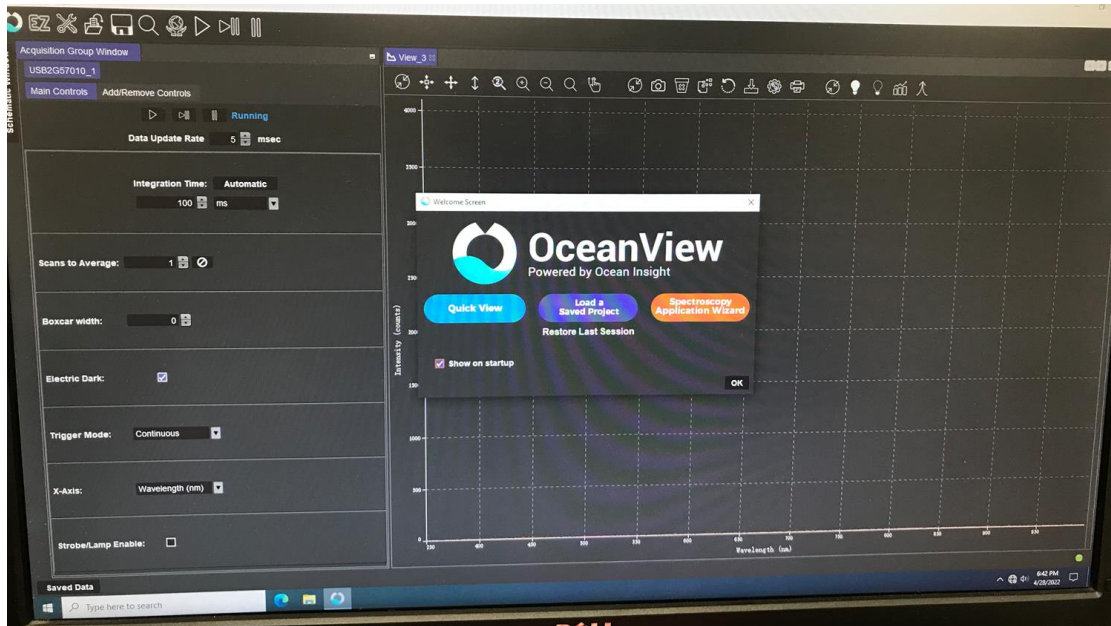


Operation manual for Ocean Optics USB650

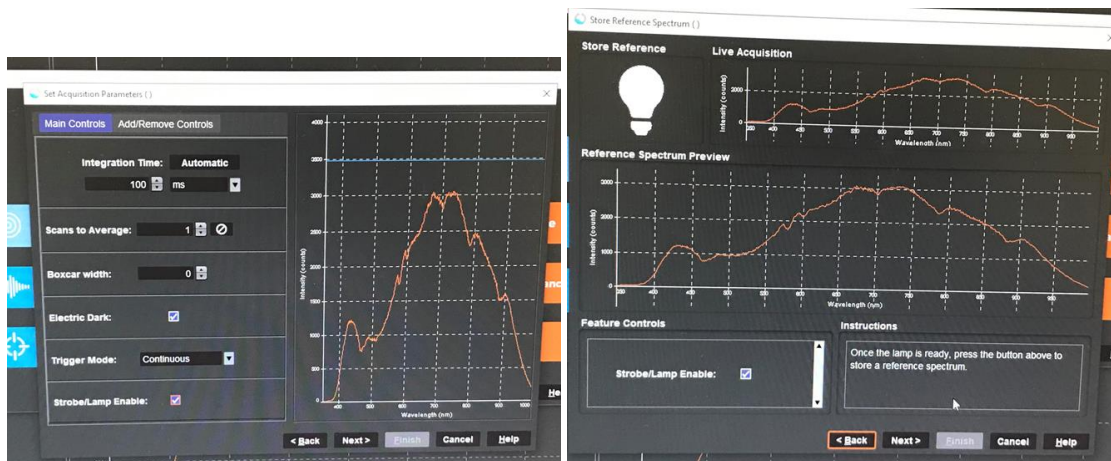
1. First, log onto the computer and connect USB650 to the desktop with a usb cable.



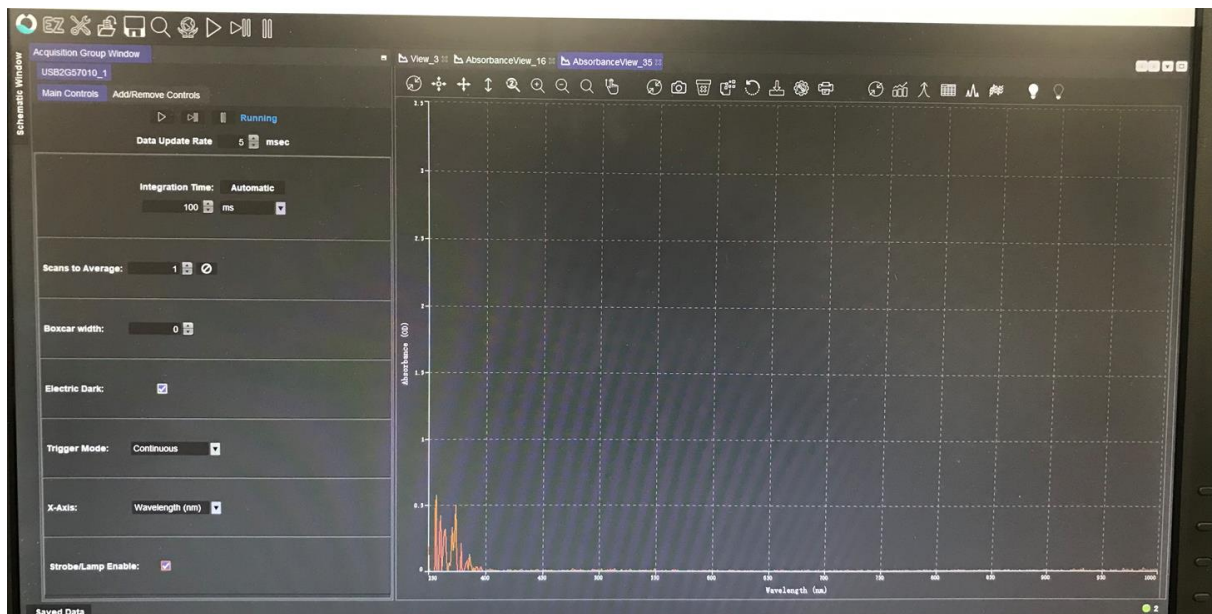
2. 1 cm illuminated cuvette holder with tungsten bulb and violet LEDs (300 – 900 nm) is attached to the spectrometer. Prepare sample solution in a quartz cuvette. Place the quartz cuvette into the holder and start to measure the spectrum.
3. Next click on the OceanView application. A new screen should pop up. If you need to measure the intensity versus wavelength, then close the ‘welcome screen’ window and directly use the spectrum displayed on the software. If you need absorbance, transmission or reflectance spectrum, go to ‘Application Wizard’, then select the corresponding tab.



4. Then ‘acquisition parameter’ window will pop out, allowing you to set the background, reference spectra as well as the integration time, scans to average, boxcar width. Make sure that the intensity of signal is not over the blue line which will saturate.



5. Collect background spectrum by turning off light source, click 'background', then 'next', collect reference spectrum by turning on light source and place empty cuvette in the holder, click 'reference', then 'finish'. The spectrum should appear on the screen as shown below.



6. Save the image and .csv data by clicking on corresponding button shown in the figure below:



7. Once you are done, be sure to remove the cuvette, close *SpectraSuite*, disconnect the USB650 from desktop and log out of the computer.
8. Fill your name, date, time in and time out on logbook.