AVIV 215 Circular Dichroism Spectrometer

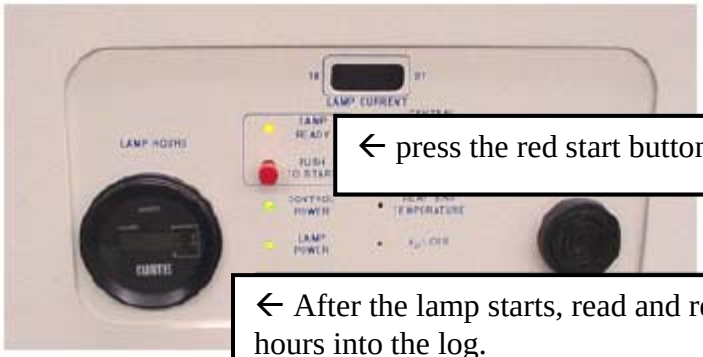
User's guide

Starting the instrument:

1. Purge the system with nitrogen for about 20 minutes.
   The N_2 valve should be preset to 20 psi. This will result in the following readings on the flowmeters:
   - lamp 8 scFH
   - monochromator 19 scFH
   - polarizer just off "0"
   - sample 2 scFH

2. Turn on the CD spectrometer using the lamp power and cooling switch (1st double switch).

3. As soon as you hear a click, the lamp power supply lights will come on. When the "lamp ready" light is on, fire the lamp by pressing the red start button.



← press the red start button to turn on the lamp.

← After the lamp starts, read and record your starting lamp hours into the log.

4. Turn on the second switch (CPU and instrument power) to start the electronics. Press the switch labeled "4" for the computer and "5" for the cooling/heating unit.

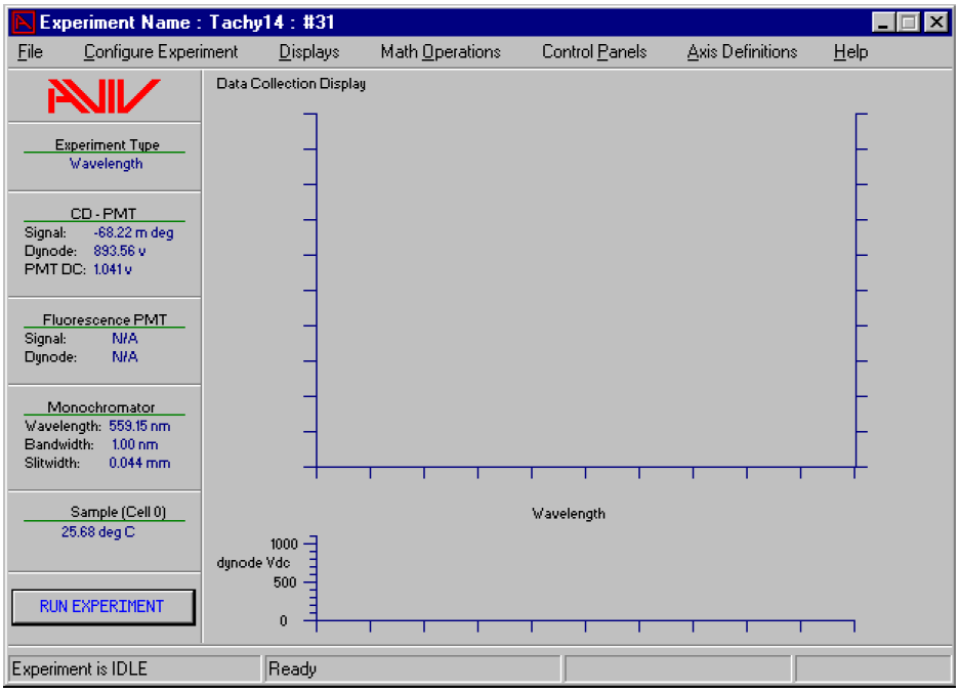
← Turn up this switch to turn on the power supply for the spectrometer's electronics and the computer.

5. After Windows starts up, just o.k.. There is no password needed here.

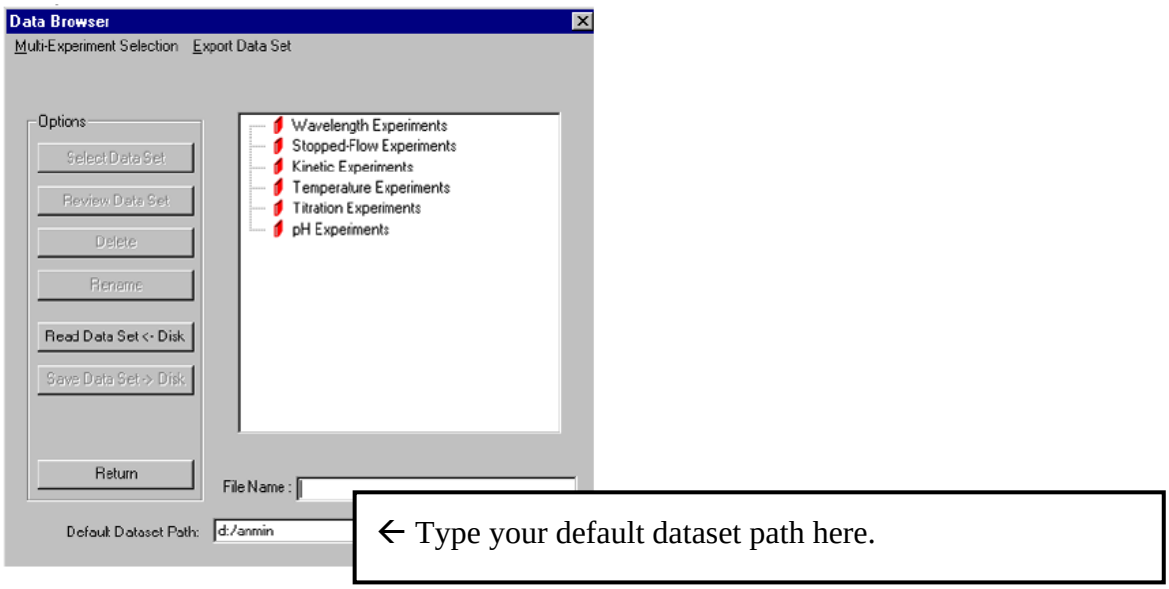
Data acquisition

6. Before starting the software, make a directory under C:\DATA with your name (XYZ): C:\DATA\XYZ.

7. Start the software by double clicking the CD-215 icon on the desktop. You will see the following page.

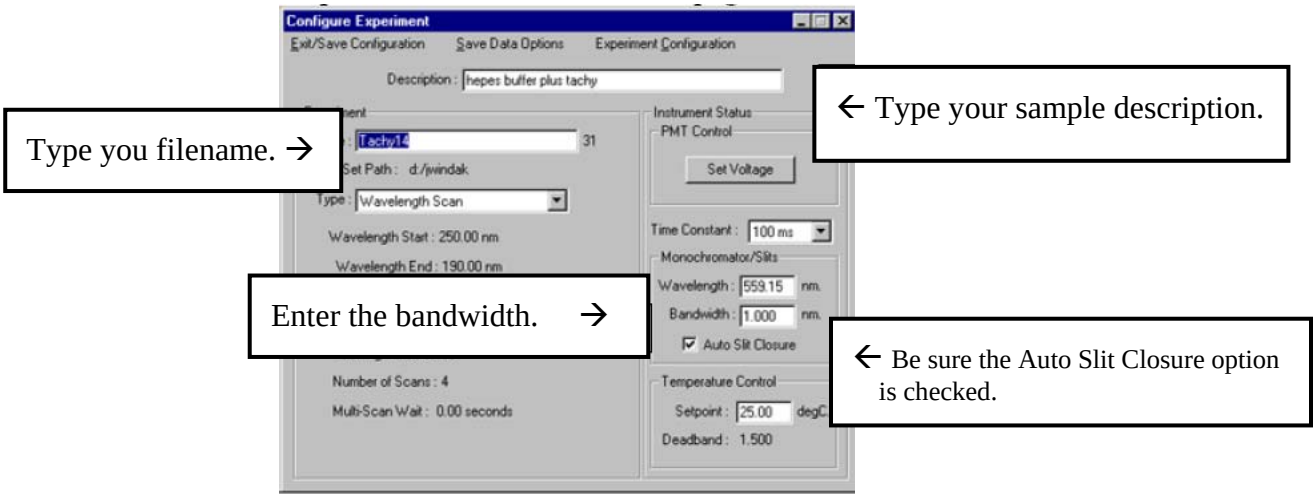


8. Click on the “Displays” menu, then click on “Data Browser”. You will see the following page. Type the path to your folder in there and press Enter.
    - **Do NOT just save all your files under C:\DATA!!!!**
    - **You must press the Enter key after changing any parameter or else the software will ignore the change.**



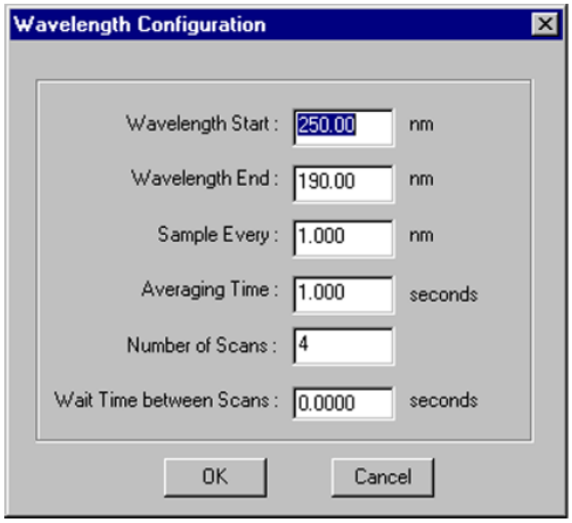
Close the data browser.

9. Click on the "Configure Experiment" menu on the main page. The following screen will appear:



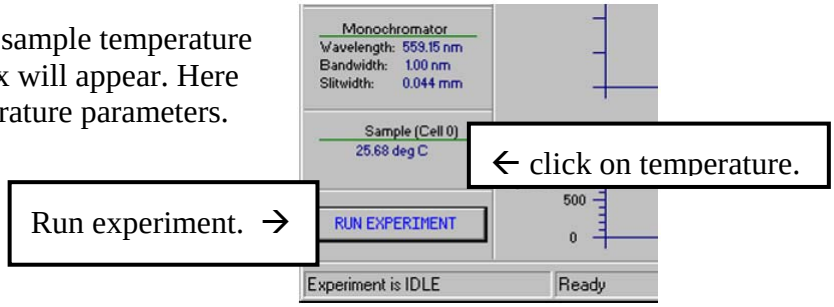
Enter a filename and the sample description. Set the bandwidth, usually to 1.0 or 1.5 mm. Be sure that the "Auto Slit Closure" option is checked. This will avoid photobleaching of your sample and extend the life span of the instrument's optics.

10. In the "Experiment Configuration" menu enter parameters such as the wavelength range and the number of scans.



Remember to press Enter after changing parameters, otherwise the software will ignore the changes.
Click on o.k. to close this window.
Click on the "Exit / Save Configuration" menu to save changes and exit.

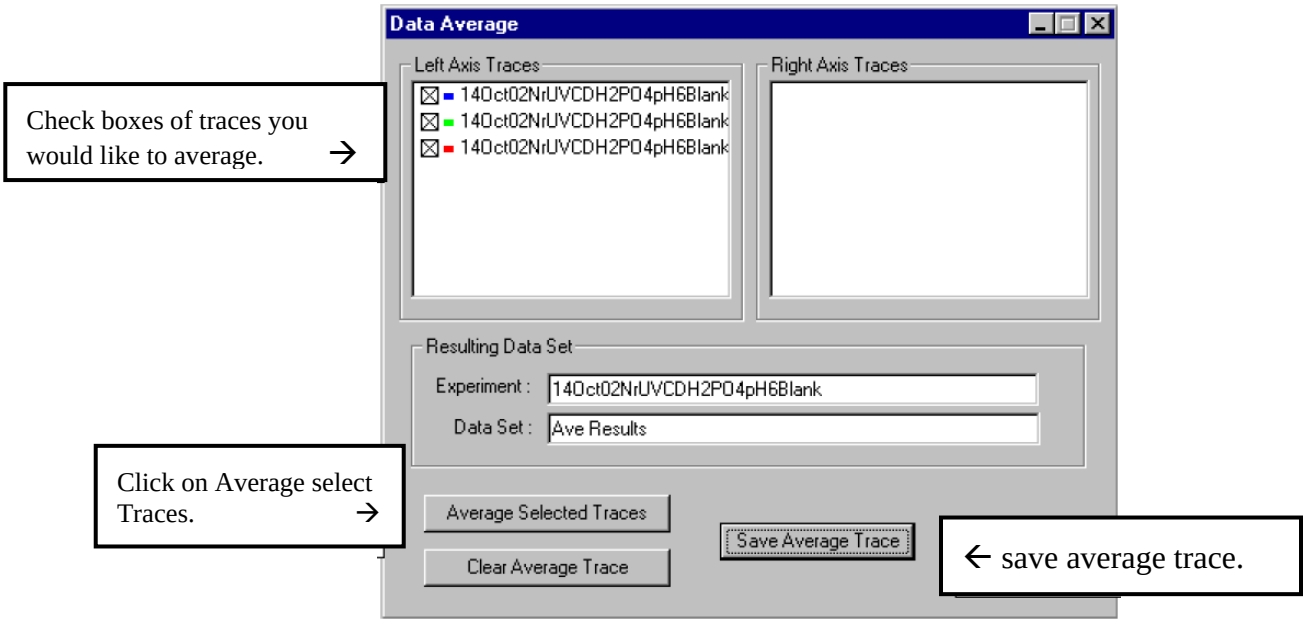
11. On the main page, click on the sample temperature and the Temperature dialog box will appear. Here you can set your desired temperature parameters.



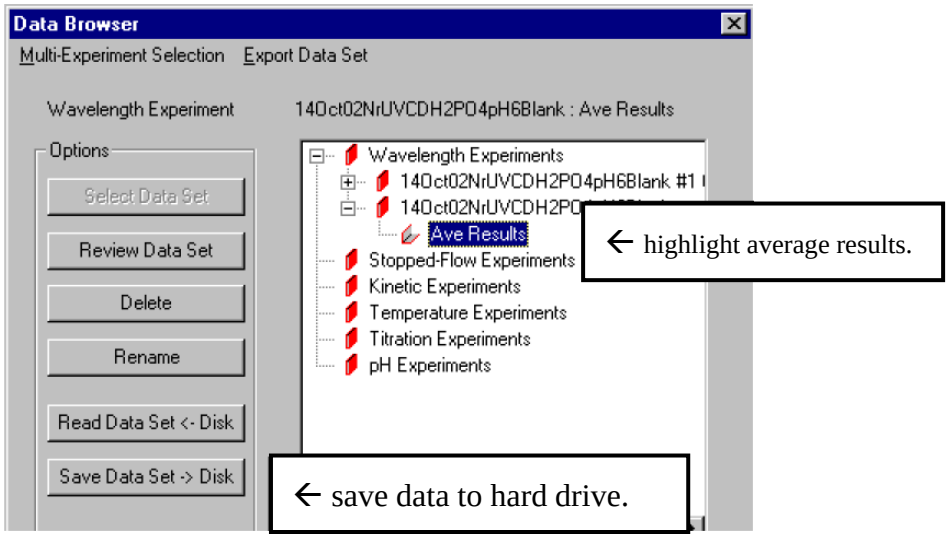
12. Insert your sample and allow it to equilibrate. Start data collection by clicking on "Run Experiments" on the main page. When the data collection is finished, the software will prompt you to save the data. Be sure to save it to the data browser and to the computer's hard drive.

How to combine multiple scans to one averaged spectrum

13. On the main page, click on the "Axis Definitions" menu and then on "Data Average". The following page will appear:



14. Pleas note: this does not save the average trace to the hard drive. You must go to the data browser to do this. In the main menu click on “Displays” and then “Data Browser”. When the browser page comes up, highlight the average results file and click on “Save Data Set to Disk”.



<u>Shutting down the instrument:</u>

15. Exit from the software. You will be prompted to save any data that has not been saved to disk. Shut down Windows.

16. Turn off the computer and Spectrometer electronics switch.

17. Record your ending lamp hours.

18. Turn off the lamp and power switch.

19. Purge the system with N_2 for five minutes. Close the nitrogen valves on the tank.