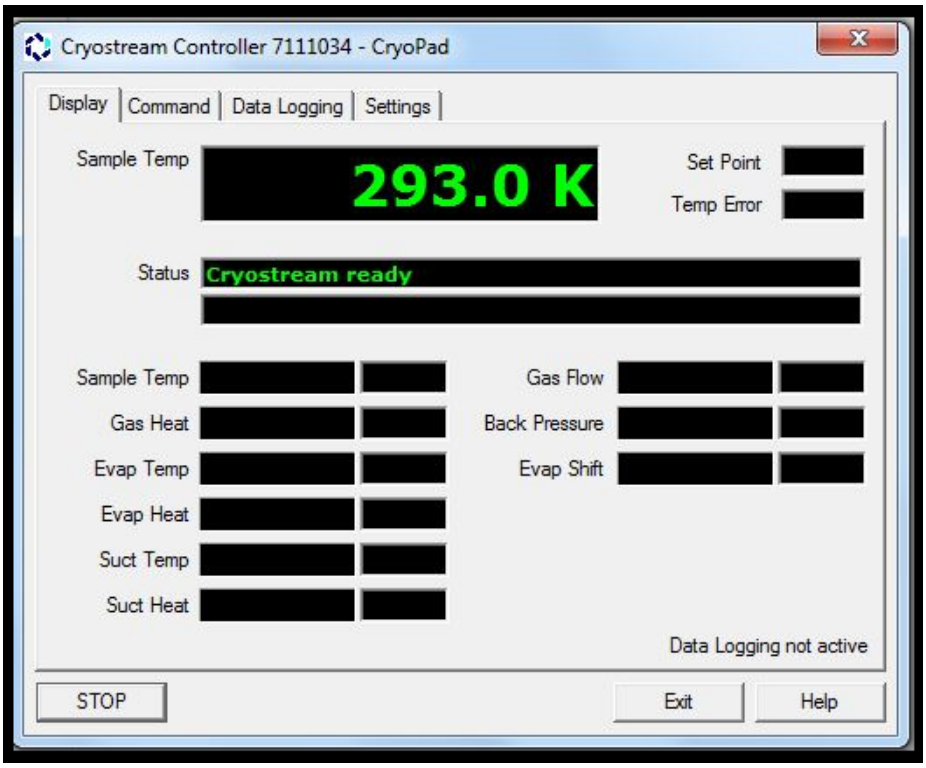
Using the Oxford 700 Cryostream on the Nonius and the Spider

The blue Oxford controller may show SHUTDOWN if the last person used the END program or it may be turned off. If it is off, you have to turn it on and allow it to go through the startup routine. The on/off button is in the back of the controller. It will take about 30 seconds to go through the routine. It will display room temperature when ready. If it says SHUTDOWN, you can use the CryoPad app to start the process.

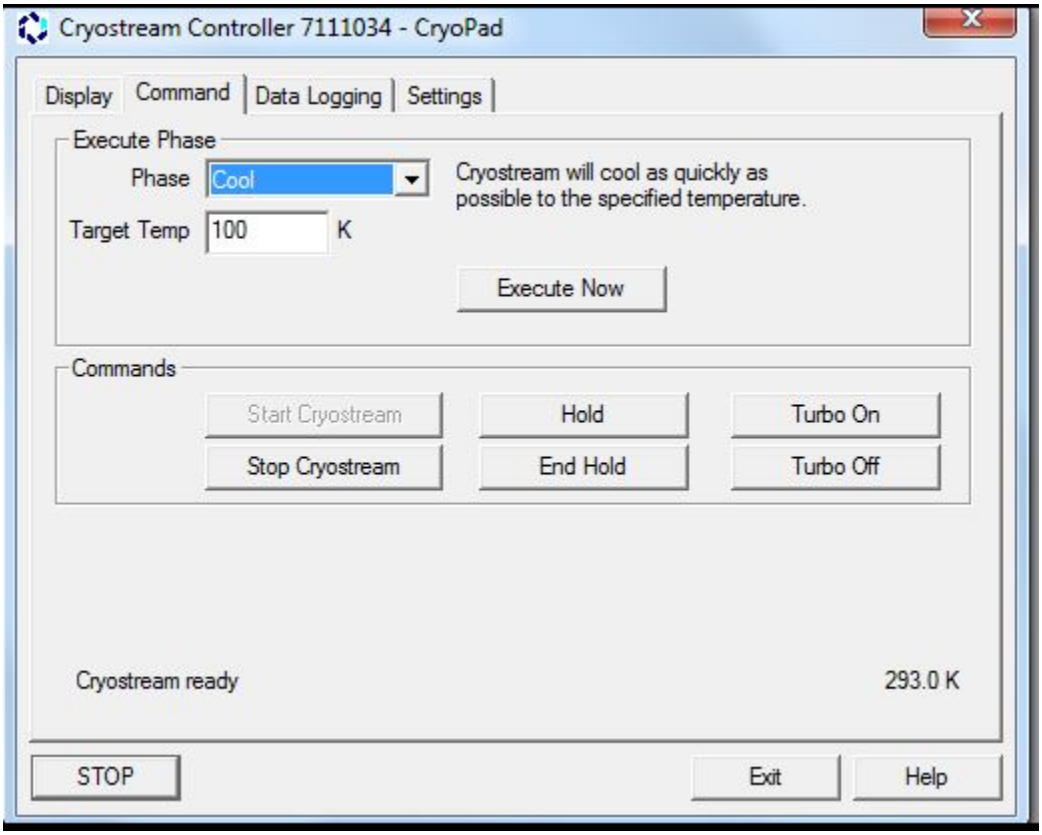
Check that there is some liquid N2 in the 60L Dewar. To check, lift the transfer line up enough to place a meter stick into the opening. You will need at least 10 cm of liquid N2 for several hours of operation, 25 cm for an overnight run. Use the 160L Dewar to fill it when needed.

Using the pc to the right of the Spider, you can use the app, CryoPad, to control the temperature. There is a shortcut on the desktop. Double click to start.

When ready, you should see the screen shot below indicating the Cryostream is ready to go.



Select the Command menu to set the temperature parameters you want.



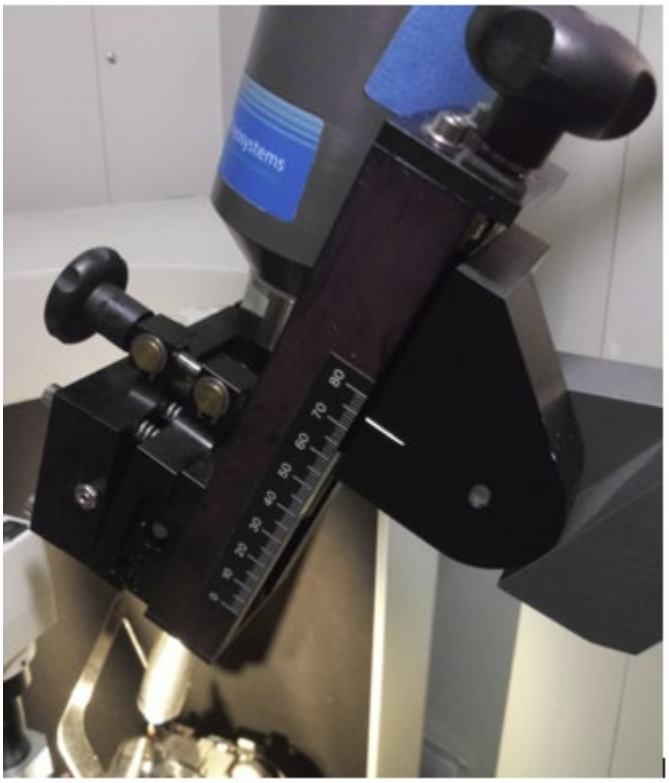
The dropdown menu by Phase will list the different programs available. Typically, you will select Cool and set the target temperature in Kelvin. Clicking Execute Now will start the cool down process. From room temperature to 100K may take 30-45 minutes.

The procedure is slightly different using the Nonius single crystal instrument from that for use on the R-Axis Spider. On the Nonius, once you execute the cool down procedure you are done. The Nonius uses the building dry N2 supply for its dry air shroud to prevent ice buildup on the crystal.

For Spider Users

The Spider uses an Oxford Cryostream AD51 dry air unit to supply the warm, dry gas shroud around the outside of the cold N2 gas stream. This is the big white box below the blue controller. There is a red Power light located at the right of the unit. The black on/off switch should be off. You will need to turn it on when using the low temperature device. The red Run light will come on. The flow meter will register that gas is being produced ~20-25 l/minute.

You will have to center your sample before lowering the nozzle to cool the sample for data collection. The low temperature nozzle will block the video camera view. For the best cooling of your sample, lower the nozzle so that the dial reads 75.



When you are finished collecting data, raise the nozzle out of the way for the next user. You should shut down the Cryostream as well. Don't simply turn it off. Use the CryoPad controller and select END in the cooling Phase and click on Execute Now. Finally, turn off the AD51 controller. It will finish on its own. You are done.