

Quick Instructions for Operating Jasco V-670 Spectrometer

Current Configuration:

Jasco V-670 with wavelength range of 190–3200 nm and Peltier temperature control (0–100 °C).

Start-Up

1. Turn on hardware.
 - a. Flip power switch on Jasco V-670. The power switch is on right-hand-side of the instrument near the front
 - i. ***NOTE* the Start button on the top does nothing but turns green to let you know that the instrument is powered.**
 - b. Flip power switch on Peltier temperature controller (blue box).
 - c. Flip power switch on surge protector to the left of Jasco V-670. This will provide power to the water pump.
 - i. ***NOTE* Even if you are not going to control temperature, you must plug in the Peltier temperature controller and water pump or the Jasco Spectra Manager program will not allow you to acquire any data.**
2. Turn on software.
 - a. Click on Spectra Manager shortcut on Desktop.

Basic Data Acquisition (Hardware)

1. Slide back the top blue cover.
2. Take off the black cover in the temperature control area.
3. Although there are two cell holders, always use the front cell holder (for both background and sample). The clear portions of the cell should be parallel to front of instrument.

Basic Data Acquisition (Software)

Like for most software, multiple ways can be used to do the same command. SpectraManager has a number of icons that you can use to enter commands; below I will use the menu commands.

1. After you click on Spectra Manager, a general Spectra Manager window will open. You will need to select the type of measurement you want to make. You should click on one of the following (most common measurements) {you can only open one measurement application at a time}:
 - a. **Spectra Measurement** (probably most common; acquire data at multiple wavelengths)
 - b. **Time Course Measurement** (acquire data at one wavelength for a period of time)
 - c. **Fixed Wavelength Measurement** (Make multiple measurements at one wavelength)
 - i. The following instructions will be for **Spectra Measurement**. Most of the other applications settings will be similar with a few detailed exceptions.
2. Select the **Measurement** menu and select **Parameters**. {You can set some of these in the Control Menu.}
 - a. *General Tab*: You can select the bandwidths, scan speed, starting and ending wavelengths, and data interval.
 - b. *Control Tab*: You can select the type of correction (background) and where the light source and gratings/detectors change over.
 - c. *Accessory Tab*: You can control the temperature of the cell holder.
 - d. *Information Tab*: You can put in information that will be saved with your data.
 - e. *Data Tab*: You can decide whether to auto save, send the data to the Spectral Analysis program, or print the data after measurement.
3. Put the cell containing the background solution in the front cell holder. Select the **Measurement** menu and select **Baseline**.

4. Put the cell containing the sample solution in the front cell holder. Select the **Measurement** menu and select **Sample**.
5. If you did not autosave, you can go to the **File** menu and save the data. In this menu you can also save your parameters in a file or other types of data.
 - a. Another useful command under the **File** menu is **Send to Analysis**. This will directly send the data to the analysis program.

Spectra Analysis

1. **File** menu
 - a. You can **open, overlay, save, and print** files.
 - b. A particularly useful command is the **Export** command. This is the command that will allow you to export the data to Excel (save as .csv, .asc., or XY ASCII; .csv is probably the best).
2. **Processing** menu
 - a. Options in this menu allow you to do a number of operations to the data, including finding peak locations, heights, and areas.

Computer Note

1. Because this computer is operating in Windows 7, the first time you log in under your name, you need to click on the Pfa316 shortcut on the desktop, if you want to use the printer in the instrument room (you only need to do this once).