

Hitachi F-2500 Fluorescence Spectrophotometer

Updated November 14, 2017

Instrument instructions can be found at:

<http://academic.bowdoin.edu/chemistry/resources/instructions.shtml>

If you have any problems with the instrument or would like to be trained, please contact

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Starting up the F-2500

1. Turn the instrument power switch to “**On**”.
2. Turn on the PC and flat panel monitor.
3. **Double-Click** on the

- vi. **EX WL**—an excitation wavelength can be input. It is the end wavelength for wavelength scan on the excitation side. Input the longer wavelength side of measuring wavelength range.
 - 1. Input Range: 220 to 800 nm
 - vii. **EM Start WL**—this is the start wavelength for wavelength scan on the emission side. Input the shorter wavelength side of measuring wavelength range.
 - 1. Input Range: 220 to 790 nm
 - viii. **EM End WL**—this is the end wavelength for wavelength scan on the emission side. Input the longer wavelength side of measuring wavelength range.
 - 1. Input Range: 230 to 800 nm
 - ix. **Scan Speed**—set a wavelength scan speed (unit = nm/min)
 - 1. 3000, 1500, 300, 60, or 15
 - x. **Delay**—after pressing the Measure button, measurement is started following the delay time set here. It is used for temperature stabilization, etc. In repeat measurement, it is the time until the start of the first measurement. The delay time is invalid for the second and subsequent measurements.
 - 1. Input Range: 0 to 9999 s
 - xi. **EX Slit**—select a slit width for the excitation side (unit = nm)
 - 1. 2.5, 5.0, 10.0, 20.0
 - xii. **EM Slit**—select a slit width for the emission side (unit = nm)
 - 1. 2.5, 5.0, 10.0, 20.0
 - xiii. **PMT Voltage**—a function for controlling the voltage of the photomultiplier detector. Select one of the following values—400V or 700V—changing from 400V to 700V increases the data value about two digits.
 - xiv. **Response** select a response time.
 - 1. 0.04, 0.08, 0.4, 2, 8 or Auto, by selecting Auto, a response time is set automatically according to scan speed. **Auto is usually selected.**
 - xv. **Corrected Spectra**—Not available
 - xvi. **Replicates**—set the number of repeat measurements.
 - 1. Input Range: 1 to 99 –an average spectrum can also be determined in repeat measurement. Setting is available in the Processing tab.
 - xvii. **Cycle Time**—set a repetition interval.
 - 1. Input Range: 0.0 to 180.0 min
- e. Monitor Tab:**
- i. **Y-Axis Max**—input a maximum value for the Y-axis on the monitor window.
 - ii. **Y-Axis Min**—input a minimum value for the Y-axis on the monitor window.
 - iii. **Open data processing window after data acquisition**—select whether or not to conduct data processing after sample measurement. When selected (check mark is applied), an icon is displayed for the data processing window at the end of measurement. And by opening this icon, data processing such as peak detection is available.
 - iv. **Print report after data acquisition**—

- a. **Constant**—data will be printed at fixed intervals between 2 wavelength points. Input Data interval, Start wavelength and End wavelength
 - b. **Select data**—data at the specified wavelength will be printed. Up to 12 wavelengths can be specified.
5. **Include peak table**—select output items in the peak table
 - a. **Peak WL/Peak data**
 - b. **Start WL/En WL**
 - c. **Valley WL/Valley data**
 - d. **Peak Area**
6. **Printer Font** click this button for changing the font to be used in the report.

2. Defining Your Samples

- c. Select the **Print** command from the File menu, or, click the [] button on the toolbar. **ONLY** the field active on the data processing window will be printed. What is displayed by clicking the **Print Preview** command in the File menu will be printed.
- d. Select the **Report** command in the Data menu, or, click the [] button on the toolbar. The Print Preview window will appear, so click []. Select the items to be printed at the **Report** tab under **Properties**. If the Report tab parameters have already been set-up in the saved method, then that is what will show on the printed report. Choosing **Report vs. Print** from the File menu will print all the spectra that appear in the window as well as the data for each spectrum.
Note: If characters overflow from the print frame in repeat measurement or in overlaying, then change the printing orientation from vertical to horizontal.

Shut Down of F-2500

1. Select the **Exit** command from the **File menu**, or click the red X in the top right-hand corner of the window.
2. “ [] is selected by default, so click **“Yes”** and the FL Solutions program will be terminated.
3. After 15 minutes, turn **off** the power switch of the spectrophotometer main unit, which will shut down the lamp.
4. Click the **Start** button of the Windows XP, and select the **Shut down** item. In the Shut down Windows dialog box, select **“Shut down the computer”** and click **“Yes”** .
5. Turn **off** the power to the PC and the flat panel monitor.