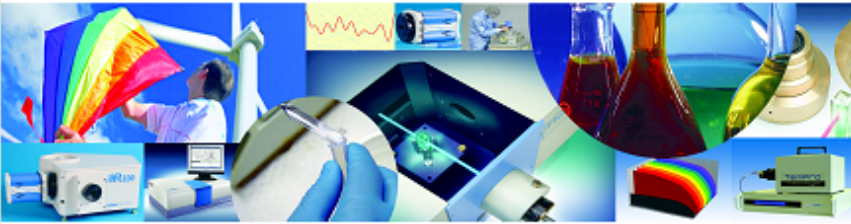


User's Guide for SynerJY® Software Version 3

HORIBA
Scientific

SynerJY® for Windows®



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July 2009

Revision 1.0

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Introduction



SynerJY® for Windows®



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About SynerJY®

SynerJY® is a complete integrated data-acquisition and -analysis software package for HORIBA Scientific spectroscopic systems.



Note: Keep this and the other reference manuals near the system.

Disclaimer

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- Adhering to safety procedures
- Following all precautions
- Referring to additional safety documentation, such as Material Safety Data Sheets (MSDS), when advised

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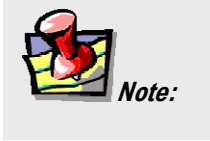
Due to HORIBA Jobin Yvon's efforts to continuously improve our products, all specifications, dimensions, internal workings, and operating procedures are subject to change without notice. All specifications and measurements are approximate, based on a standard configuration; results may vary with the application and

environment. Any software manufactured by HORIBA Jobin Yvon is also under constant development and subject to change without notice.

Any warranties and remedies with respect to our products are limited to those provided in writing as to a particular product. In no event shall HORIBA Jobin Yvon be held liable for any special, incidental, indirect or consequential damages of any kind, or any damages whatsoever resulting from loss of use, loss of data, or loss of profits, arising out of or in connection with our products or the use or possession thereof. HORIBA Jobin Yvon is also in no event liable for damages on any theory of liability arising out of, or in connection with, the use or performance of our hardware or software, regardless of whether you have been advised of the possibility of damage.

Symbols used in this guide

Certain symbols are used throughout the text for special conditions when operating the instruments:



General information is given concerning operation of the equipment.

1: Installation

Requirements

To successfully install SynerJY®, your host computer needs the following:

Software

Windows® 2000, Windows® XP, or Windows® Vista 32

Hardware

- 512 MB RAM (1 GB recommended)
- 1 GB hard-disk space
- One available USB port for SynerJY® hardware key
- Video resolution of at least 1024 × 768
- CD-ROM drive

Supported instruments

- All TRIAX, Gemini, M Series, FHR640/1000, HR460, H10, H20, all SPEX232/488 compatible spectrometers, and CP Series; 1000M Series II and 1250M Series II; Micro-HR (manual and automated); iHR320 and iHR550 spectrometers
- VS140 fiber-optic-based spectrograph
- HR640 and THR1000 spectrometers (requires HR Link Controller)



Note: SynerJY does not work with an original SpectraLink Controller.

- Symphony array detectors with auxiliary input support; synapse array detectors with auxiliary input support (latest firmware required)
- CCD-3000, CCD-3500, and IGA-3000 family of array detectors
- DataScan2 and SpectrAcq2 data-acquisition systems
- Lock-in amplifiers: SR510, SR530, with RS-232 communication only
- Lock-in amplifiers: SR810, SR830, SR850, and EG&G 7260/Signal Recovery 7265 GPIB and RS-232 communication
- HJY and Jobin Yvon filter-wheels, internal and external

Installation and startup overview

The installation of your HORIBA Scientific spectrometer and SynerJY® software has several separate stages that must be completed for the system to operate properly. Please follow the steps in the order listed below for proper installation and startup.

- 1 Set up all equipment and connect all cables.
- 2 If your system contains a CCD or InGaAs Array, follow the “Installation of CCD Hardware Files” procedure (page 3) before installing SynerJY®.
If your system does not include a CCD or InGaAs Array, please start with step 3.
- 3 Install SynerJY® according to the procedure listed on page 5.
- 4 Following installation, set up SynerJY® software for your specific system configuration.
The copy of SynerJY® shipped with your system contains a preset configuration that needs to be loaded. If you received SynerJY® as a stand-alone copy with no preset configuration, you can create your hardware configuration using the procedure in the next chapter.
- 5 If your system includes a CCD, perform the “CCD Focus and Alignment” procedure (see SynerJY Help>Experiment Setup>General Parameters>Detectors>Multi-channel Detector Parameters>CCD Focus and Alignment).
- 6 Perform the “Monochromator Calibration” procedure (see SynerJY Help>Experiment Setup>General Para-

meters>Monochromators >Monochromator Calibration).

This procedure serves as an initial check, prior to running an experiment, that your system's monochromator is properly calibrated and aligned.

- 7 If your system includes a CCD detector, perform the “CCD Wavelength Calibration” procedure (see SynerJY Help>Experiment Setup>General Parameters>Detectors>Multi-channel Detector Parameters>Wavelength Calibration).**

This procedure is a method of calibrating the pixel-to-wavelength conversion of the CCD detector. Before running this procedure, the CCD detector must be focused and aligned, and the monochromator center-wavelength must be properly calibrated.

- 8 You are ready to enter your experiment parameters and begin acquiring data.**

Step 1: Connect all components and cables.

Follow the instructions supplied with the components.

Step 2: Install CCD hardware files



Note: If you have a Synapse™ detector, skip this step.

Introduction

HORIBA Scientific spectrometers can be integrated with various detectors and accessories, which can be added or removed from the hardware configuration for a variety of experiment types. Hardware configurations with CCD detectors require the installation of CCD files before creating or loading a hardware configuration. We recommend that you install these files prior to installing SynerJY®. CCD hardware files are on the Initialization and Setup CD or disk with your CCD. The following procedures are for Symphony®-based systems. If you do not have a CCD, continue with the “Installing SynerJY®” section (page 5).

Installation of Symphony® CCD hardware files

- 1 **Start Windows®** if necessary.
Make sure all programs are closed.
- 2 **Insert the CD** labeled “Symphony” into the CD-ROM drive.
If Autorun is enabled, installation begins automatically. If Autorun is not enabled, execute the `Setup.exe` file by selecting `My Computer>Symphony CD-ROM>Setup.exe`.

The **InstallShield Wizard** window appears.
- 3 **Click the Next > button.**
The License Agreement area appears.
- 4 **Read the License Agreement carefully, then click the Yes button.**
You must agree in order to install the Symphony® hardware files.

- 5 Enter your name and the name of your company. Click the Next > button.
- 6 Select a destination location, or click the Next > button to accept the default location.
- 7 Review the current settings, then click the Next > button to continue.
- 8 Configure the Network Interface Card (NIC) Internet Protocol (IP) connection by typing in the last number set of the Symphony® IP Address.

The default value is 2, but you may enter any number from 2 to 255.



Note: A dedicated 10/100 Ethernet port must be installed in your PC prior to configuring the IP connection. If you are connected to a Local Area Network (LAN), installation of a second port is required. See the Symphony® manual for Ethernet NIC installation instructions.

- 9 Click Set as Symphony.
A message appears indicating that Symphony® has been successfully configured.
- 10 Click the OK button.
- 11 Click the Finish button.
- 12 Remove the Symphony CD from the CD-ROM drive.



Note: When the Symphony® controller is switched on and the network settings are activated, the system-status LEDs on the front panel of the controller blink at 1 Hz, indicating that the Symphony® CCD detection system is awaiting initialization. To initialize and load or create a hardware configuration with a Symphony® CCD detector, the Symphony® hardware files must be installed.



Note: Do not launch SynerJY® until the Symphony® controller LEDs stop blinking.

Step 3: Install SynerJY®

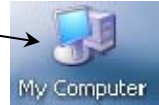


Note: You must be an Windows® administrator in order to install SynerJY®.

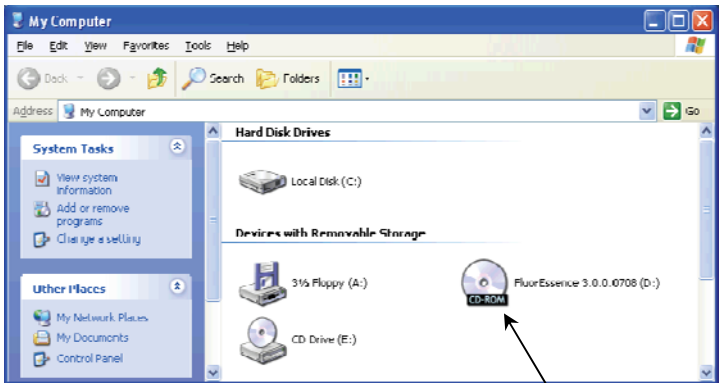
- 1 Remove any HORIBA USB software key (if inserted) from the host computer before starting the installation.
- 2 Insert the SynerJY® CD-ROM in the host computer's CD-ROM drive.
- 3 If Autorun is not operating, continue here:

If Autorun is operating, continue with step 4.

- a On the desktop, open the My Computer icon.

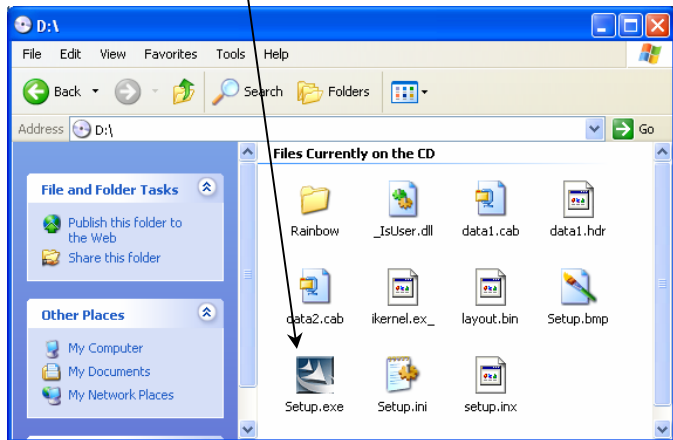


- b The **My Computer** window opens:



- c Click on the CD-ROM drive to open the SynerJY® CD-ROM.

d Click the Setup.exe icon.



e Continue with step 4 below.

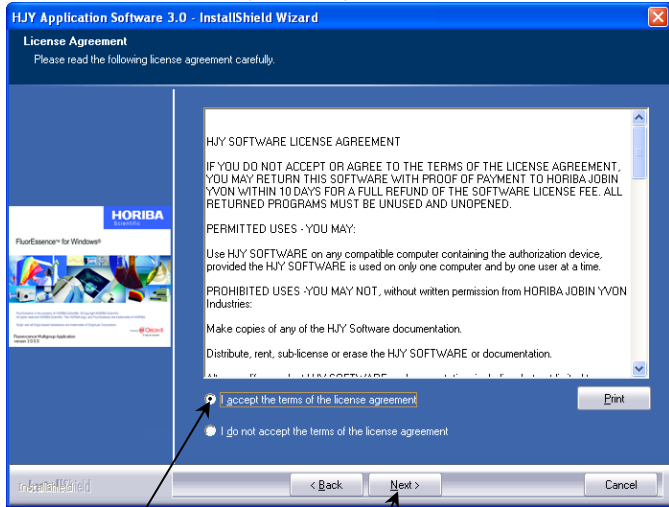
4 If Autorun is operating, continue here, to install SynerJY® software:

The **InstallShield® Wizard** starts.



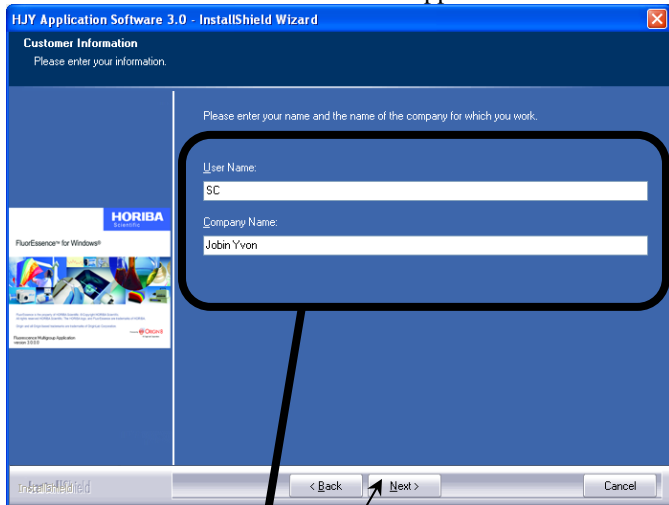
a Click the Next > button.

The License Agreement appears.

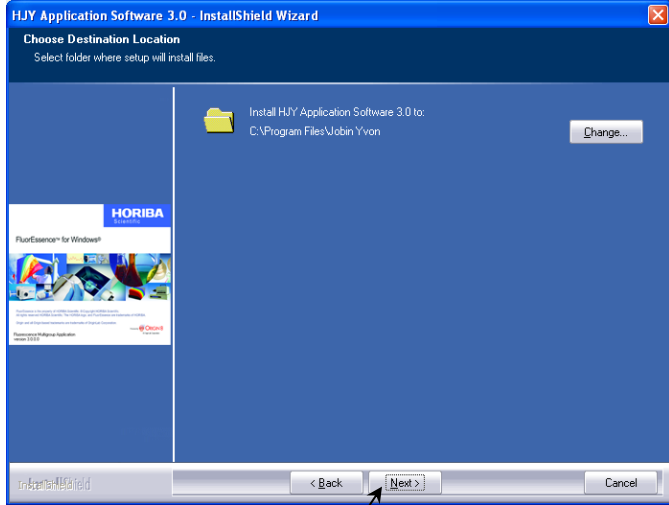


- b** Click I accept the terms of the license agreement radio button, then the Next > button.

The Customer Information area appears.



- c** Enter your User Name and Company Name.
The Next > button activates.
- d** Click the Next > button.
The Choose Destination Location area appears.

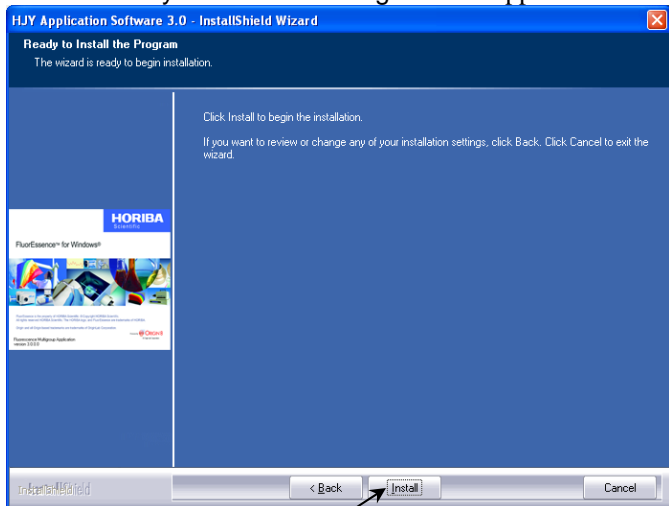


e Choose the location where SynerJY® is to be installed.

Most people prefer the default location. Click the Change button to find a different location.

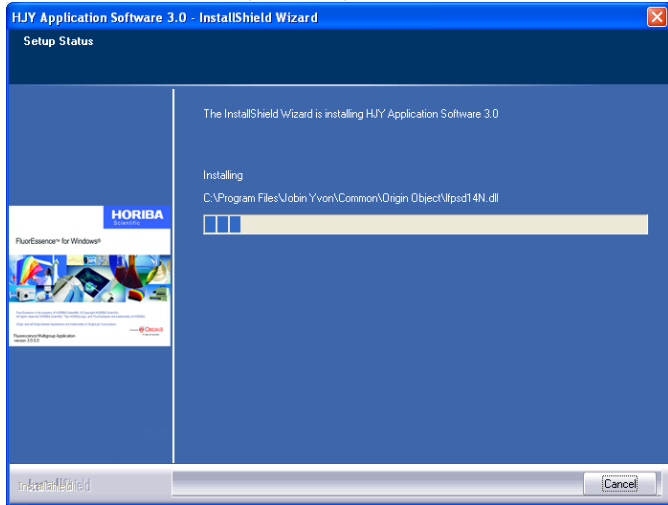
f Click the Next > button.

The Ready to Install the Program area appears:



g Click the Install button.

The computer starts copying the files from the CD-ROM to the hard-drive, and the Setup Status area appears:



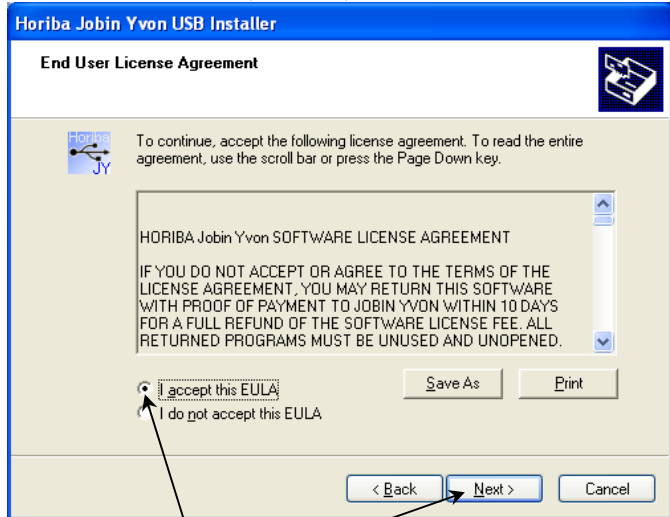
Eventually the **Horiba Jobin Yvon USB Installer** window appears.

5 Install the USB device.



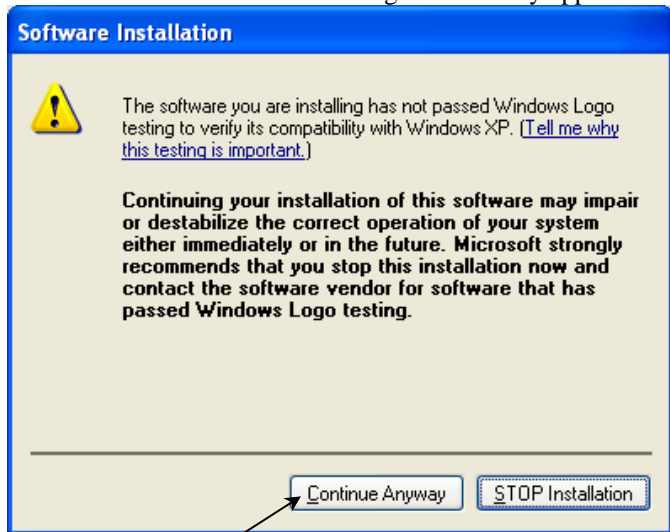
a Click the Next > button.

The End User License Agreement area appears:



- b Click the **I accept this EULA** radio button, then click the **Next >** button.

A **Software Installation** warning window may appear:



- c Click the **Continue Anyway** button.

The **Installing the software for your HJY USB device...** area appears.

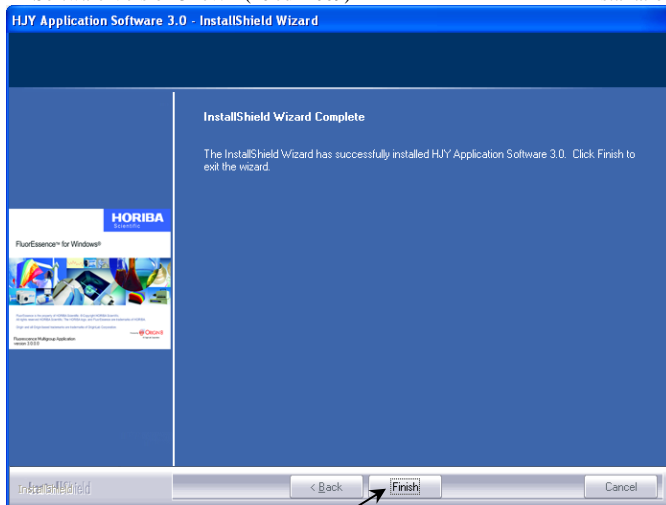


When complete, the Congratulations! You are finished installing your HJY USB device. area appears:



d Click the Finish button.

The **Horiba Jobin Yvon USB Installer** window closes. The InstallShield Wizard Complete area appears.



- 6 Click the Finish button.
Installation of SynerJY® is complete.
- 7 Plug in all HORIBA software keys. Remove the SynerJY® CD-ROM from the host computer.



Note: You must insert the SynerJY® hardware key into a free USB port to start SynerJY®.

Step 4: Focus and align CCD

Follow the instructions supplied with the components.

Step 5: Calibrate monochromator

Follow the instructions supplied with the components.

Step 6: Calibrate CCD wavelength

Follow the instructions supplied with the components.

2: Creating and Loading Configurations



Note: All new systems have a hardware configuration already on the SynerJY® installation disk.

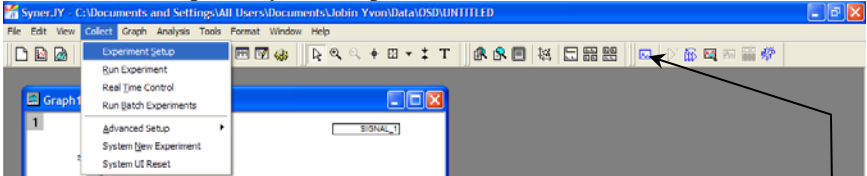
Loading a pre-existing hardware configuration

Your SynerJY® CD contains a hardware-configuration template that is custom-designed for your system. Your hardware configuration can be loaded automatically from this file.

- 1 On the Windows® desktop, click the SynerJY V3 shortcut to start SynerJY®.

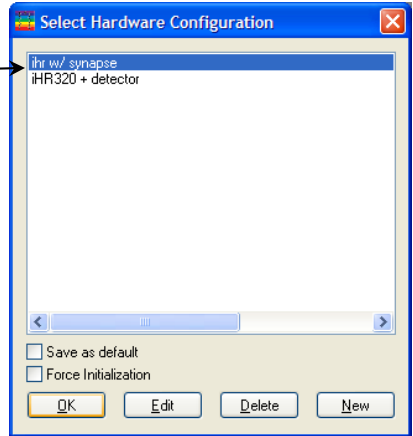


Be sure the SynerJY® hardware key is inserted in a free USB port of your computer.



- 2 In the SynerJY toolbar, click the Previous Experiment Setup button . The **Select Configuration** window appears.

3 In the list, double-click the configuration you desire. The hardware configuration loads.



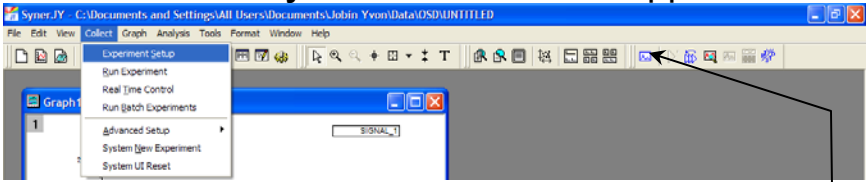
Creating a new hardware configuration


- 1 On the Windows® desktop, click the SynerJY V3 shortcut to start SynerJY®.



Be sure the SynerJY® hardware key is inserted in a free USB port of your computer.

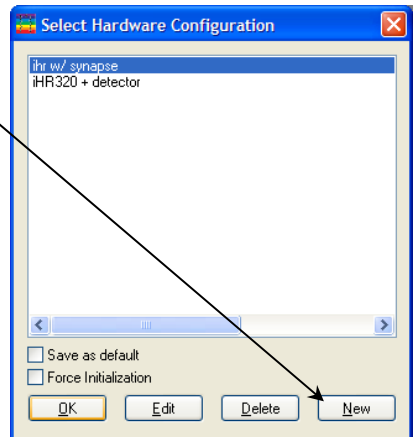
- 2 The **SynerJY** main window appears.



- 3 In the SynerJY toolbar, click the Previous Experiment Setup button .

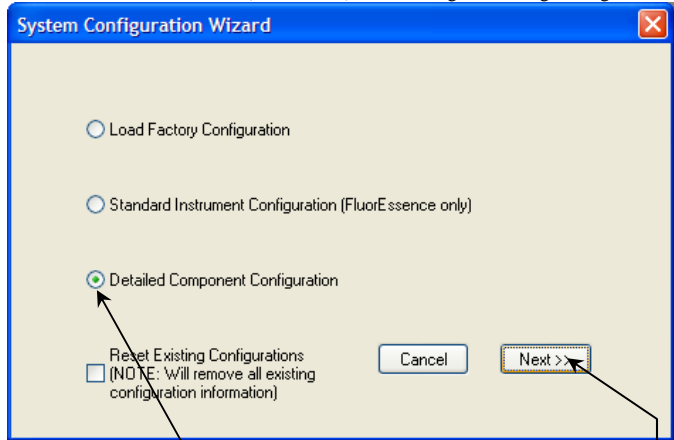
The **Select Configuration** window appears.

- 4 Click the **New** button.



The **System Configuration Wizard** opens.

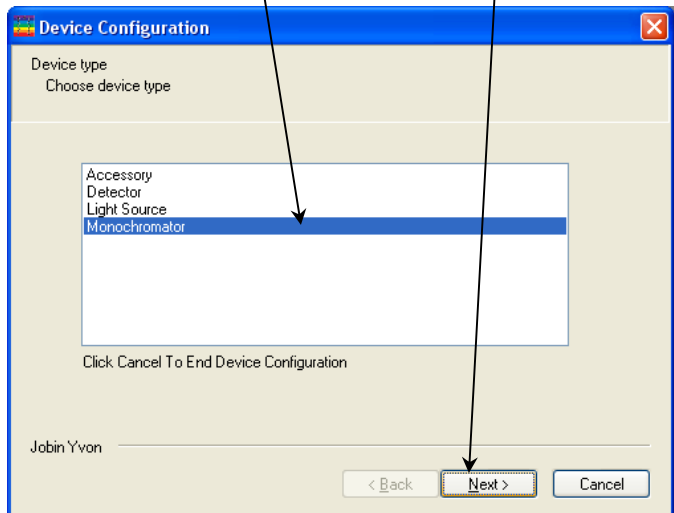
- 5 Create the configuration.



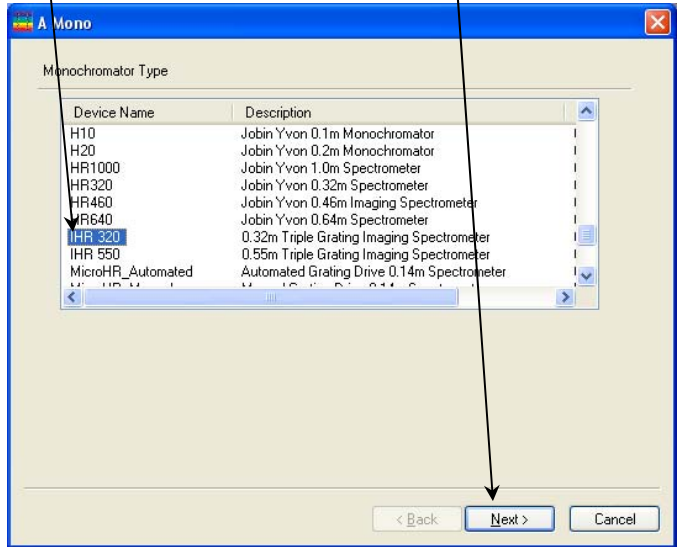
a Select the Detailed Component Configuration radio button, then click the Next >> button.

The **Device Configuration** window appears.

b Choose a device type, then click the Next > button.

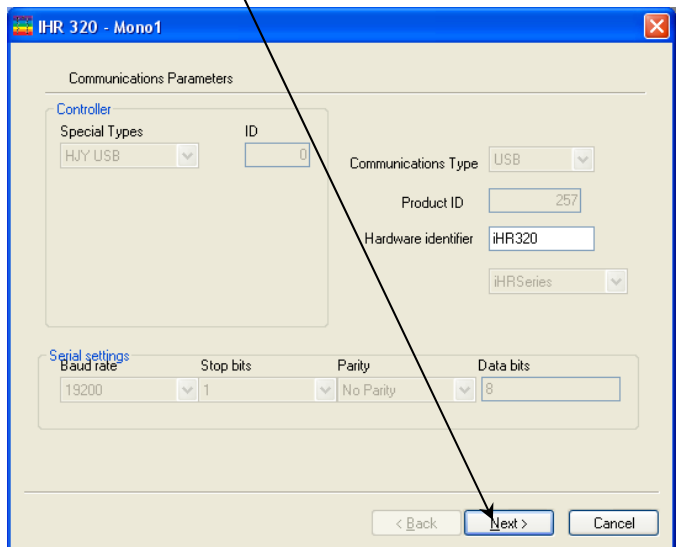


C Select the specific type of device (spectrometer model, detector type, etc.), then click the Next > button.

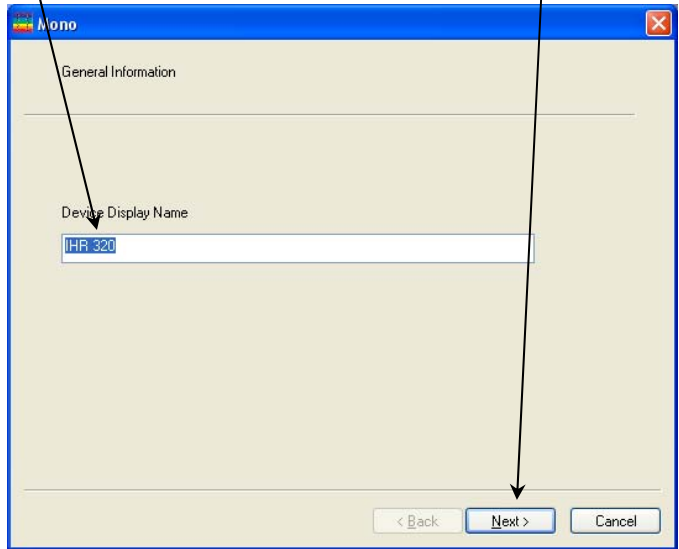


Note: For multichannel detectors, e.g., Synapse™, choose HJY USB from the Special Types drop-down menu.

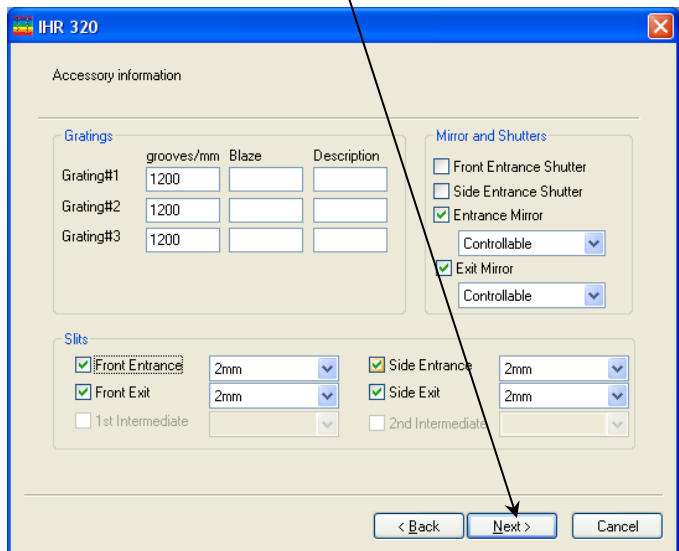
d Enter all Communications Parameters for the device, then click the Next > button.



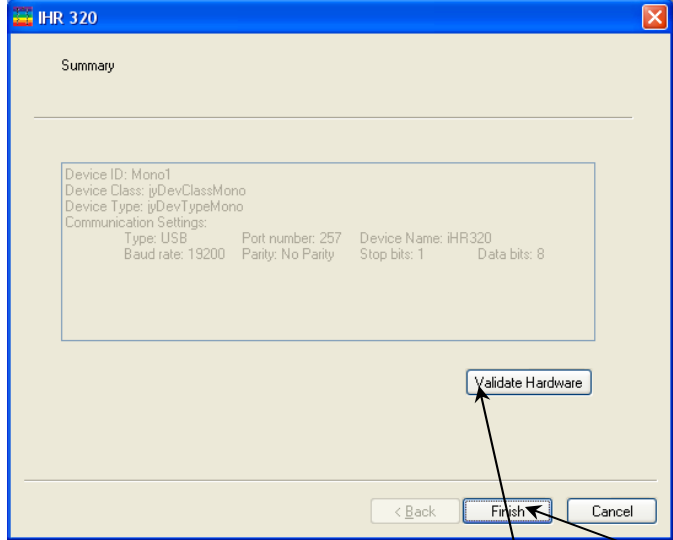
e Enter the Device Display Name (the device's model name appears as the default), then click the Next > button.



f Depending on the device type being added, either enter the device's Accessory information (for monochromator), Filter Wheel Information (for accessory) or CCD Table Path (for multi-channel detector), then click the Next > button.



A summary of the device configuration appears.

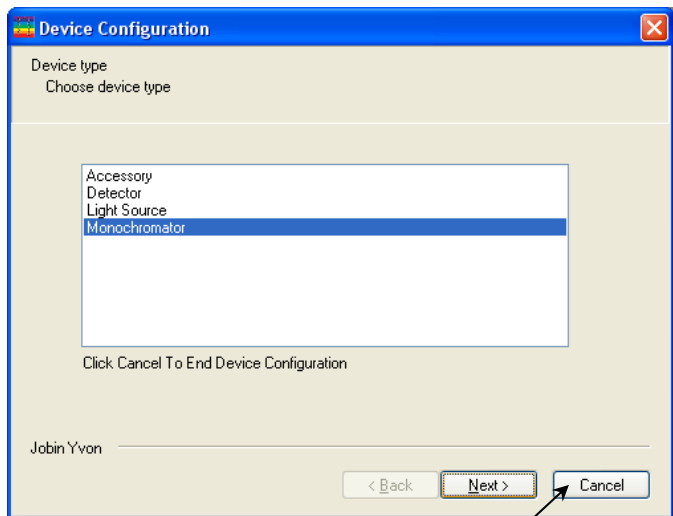


g If the hardware is attached to the host computer and switched on, click the **Validate Hardware** button to verify that the host computer communicates with this device.

h Click the **Finish** button to continue.

The **Device Configuration** window reappears.

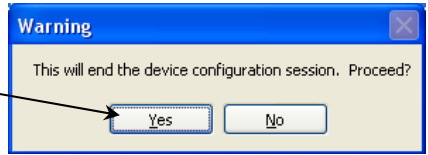
i Repeat steps b–h for your detector, and until you have added all of your system's devices.



j When all additions are entered, click the **Cancel** button to exit the **Device Configuration** window.

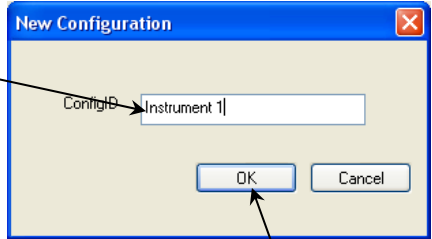
A **Warning** window appears.

- k Click the **Yes** button.

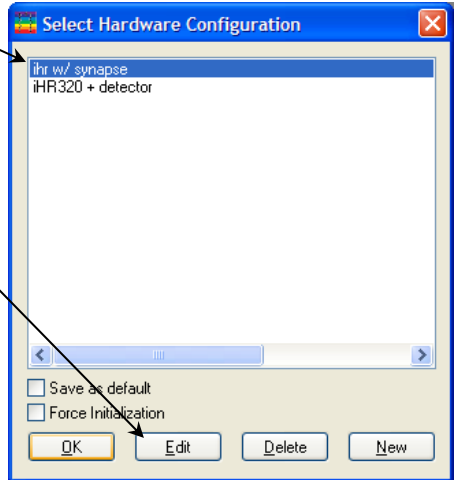


The **New Configuration** window opens:

- 6 Enter the ConfigID (a descriptive label, for example, MicroHR + Symphony), then click the **OK** button. The **Select Hardware Configuration** window appears.

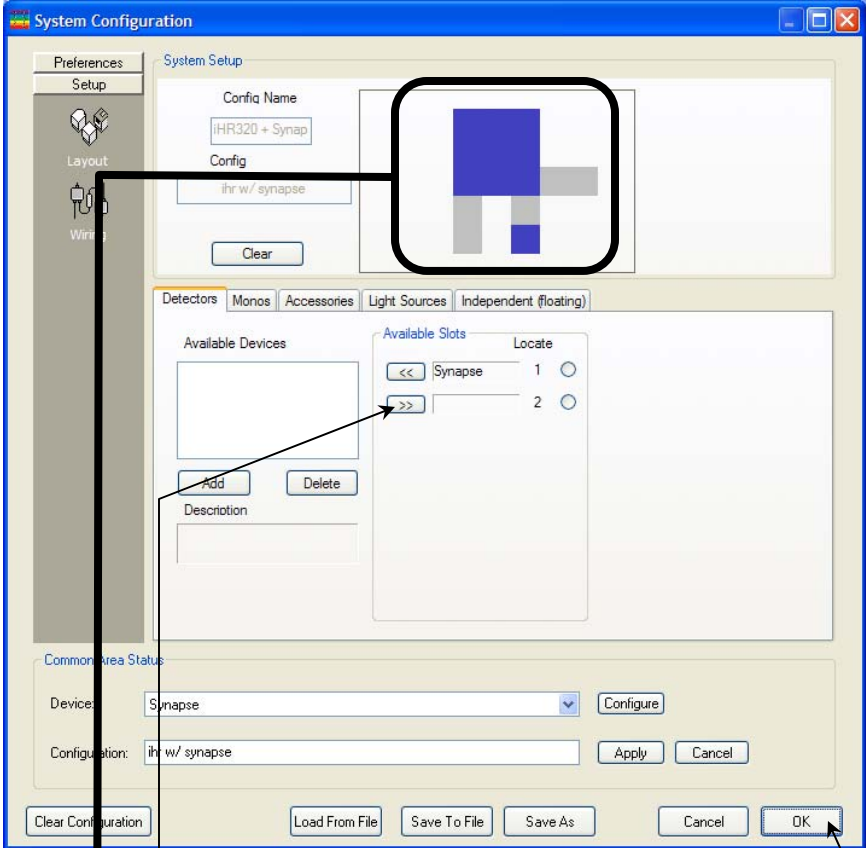


- 7 Choose the new configuration from the list, and click the **Edit** button.



The **System Configuration** window appears.

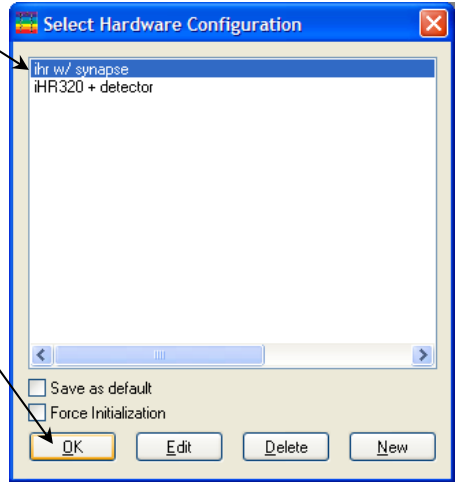
- 8 Attach the devices to this hardware configuration:



- a Click on a desired device in the appropriate tab.
Each device appears in the Available Devices list when the appropriate tab is selected (see “Table of all devices, and tabs under which they appear”).
- b Click the >> button to add it to the configuration.
- c The device appears on the graphic in the top area of the System Configuration window.
- d Continue adding devices under various tabs until the configuration is complete.
- e Click the OK button.

The **System Configuration** window closes. The **Select Hardware Configuration** window appears, with the newly created hardware configuration.

9 Select the desired configuration and click the OK button.



Note: With a manual instrument (such as a manual MicroHR) or instrument with a single removable grating (such as an M-series), create a separate device configuration whenever you use a different grating. For example, if you are using both a 1200 grooves/mm grating and 1800 grooves/mm grating with a 1000M, you need to create one configuration for the 1000M-1200 and one for the 1000M-1800. Even if all of the detectors and accessories are the same, you still must create two device configurations for the monochromator. Create separate device configurations for instruments having multiple turrets: one device configuration for each grating on a turret.

Editing an existing hardware configuration

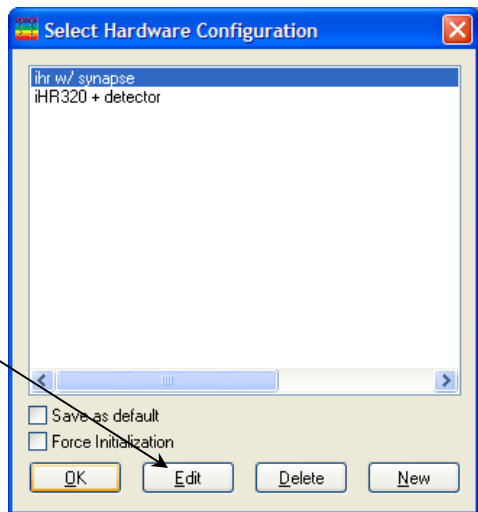
Any changes made to the system's hardware configuration must be reflected in the SynerJY[®] System Configuration to establish proper communications. There are three ways to edit the System Configuration:

- Remove a device from the hardware configuration
- Add an available device to the hardware configuration
- Add a new device to the hardware configuration

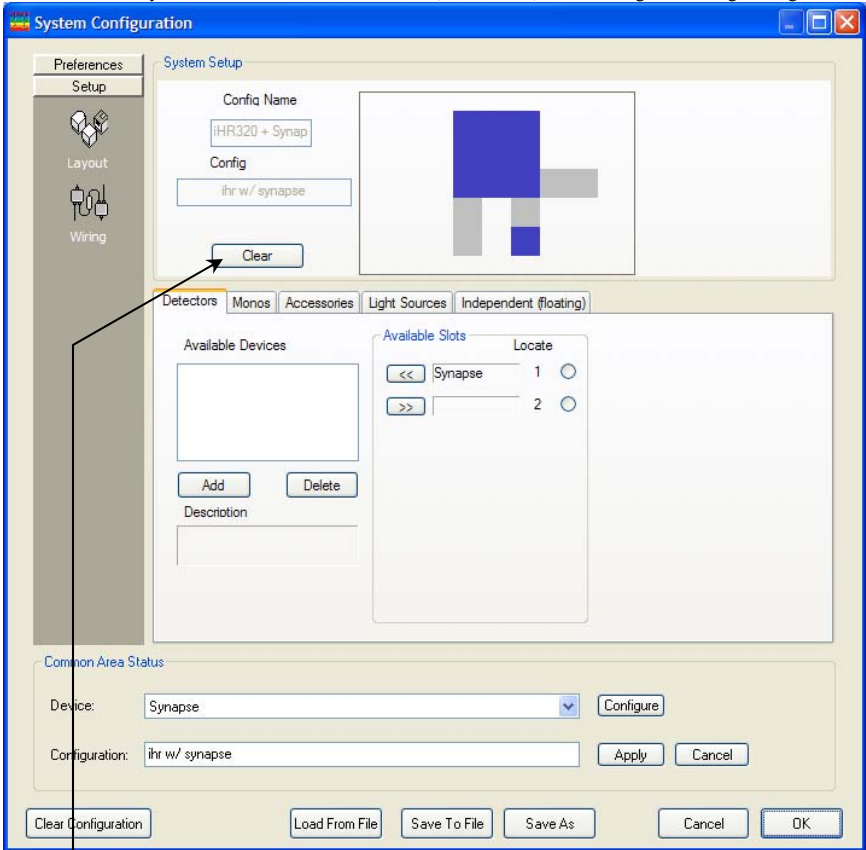
Remove a device from an existing hardware configuration

- 1 Start SynerJY[®] as explained in earlier sections of this chapter.
- 2 Select **Collect>Experiment Setup**.
The **Select Hardware Configuration** window opens.
- 3 Select the desired configuration, and click the **Edit** button.

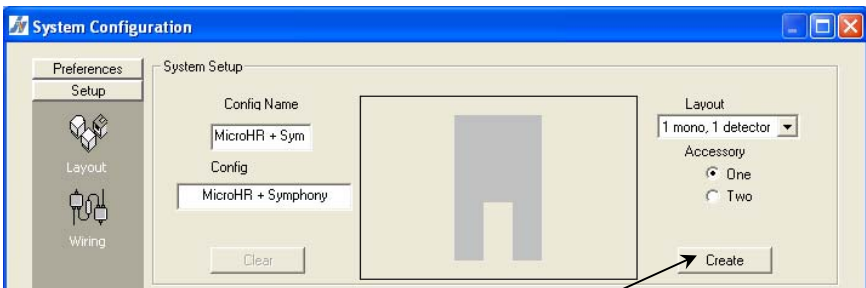
The **System Configuration** window appears.



- 4 Edit the configuration:

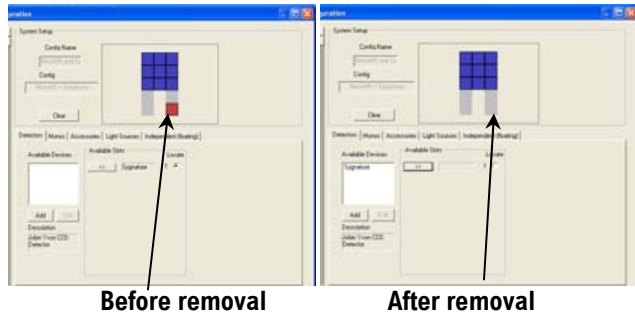


a If you are not changing the overall system layout (such as from “1 mono, 1 detector” to “1 mono, 2 detectors,” etc.) proceed to Step b. If you are changing the system layout, select the **Clear** button in the **System Setup** area, then choose the appropriate **Layout** from the dropdown menu that appears on the right:



b Click the **Create** button to display a visual representation of the system configuration.

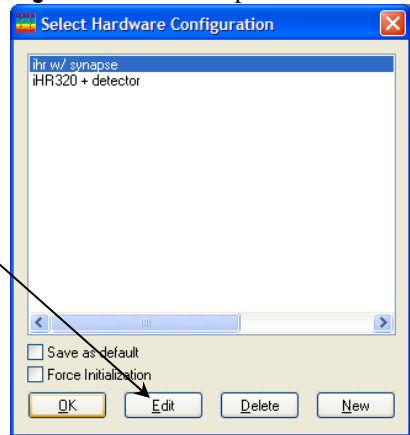
- C To remove a device from the configuration, select the tab containing the type of device you want to remove, and click the << button.



The device is no longer viewable in **System Setup**.

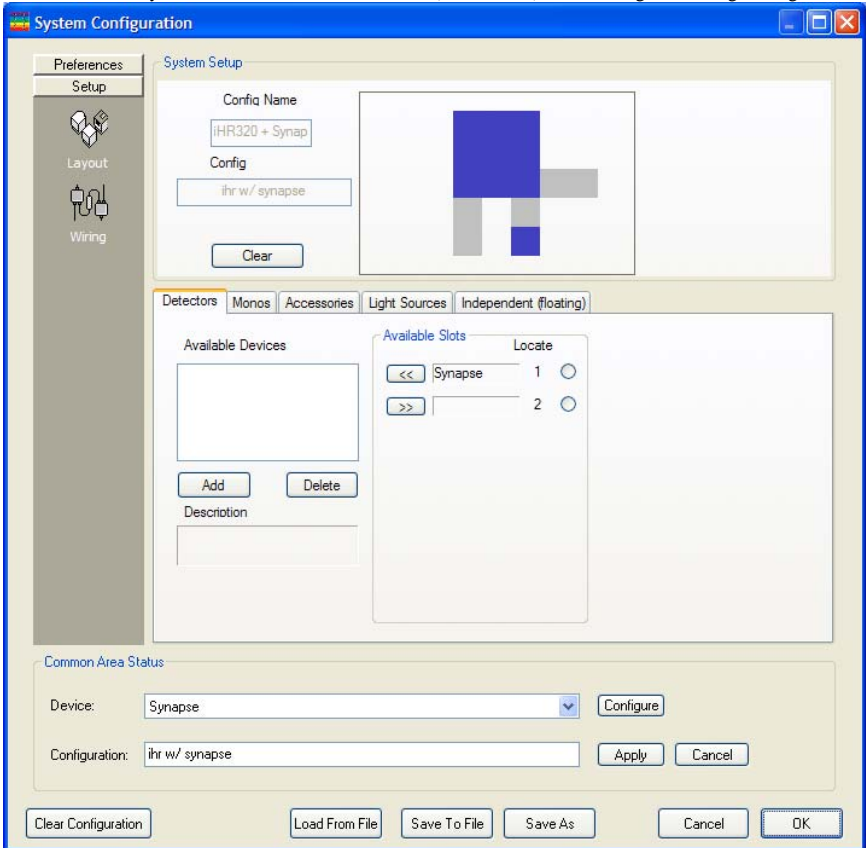
Add an available device to an existing hardware configuration

- 1 Start SynerJY[®] as explained earlier in this chapter.
- 2 Select Collect>Experiment Setup.
The **Select Hardware Configuration** window opens:
- 3 Select the desired configuration to edit, and click the Edit button.

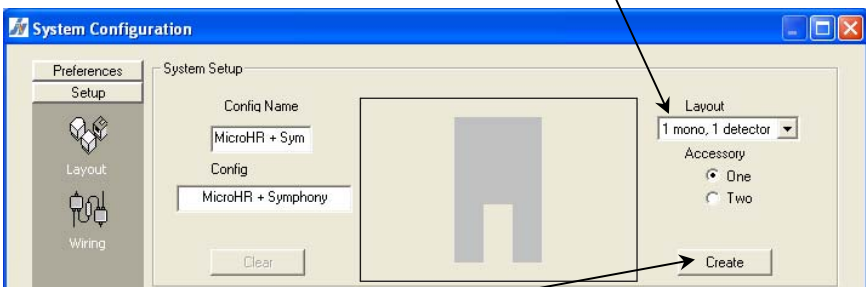


The **System Configuration** window opens.

- 4 Edit the hardware configuration:



- a If you are not changing the overall system layout (such as from “1 mono, 1 detector” to “1 mono, 2 detectors,” etc.) proceed to step 6. If you are changing the system layout, select the **Clear** button in the **System Setup** area and choose the appropriate **Layout** from the drop-down menu that appears on the right.



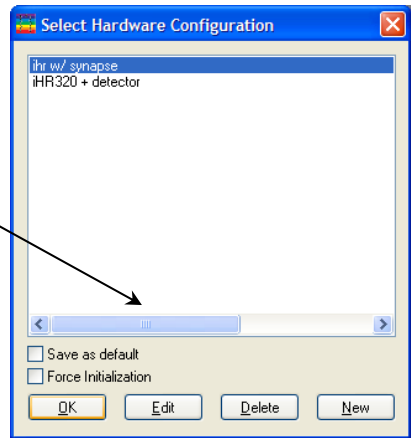
- b Click the **Create** button to display a visual representation of the system configuration.

- c To add a device that has already been configured, select the tab containing the type of device that you want to add, and select the device from the list of Available Devices.
- d Click the >> button.

The device is now viewable in **System Setup**.

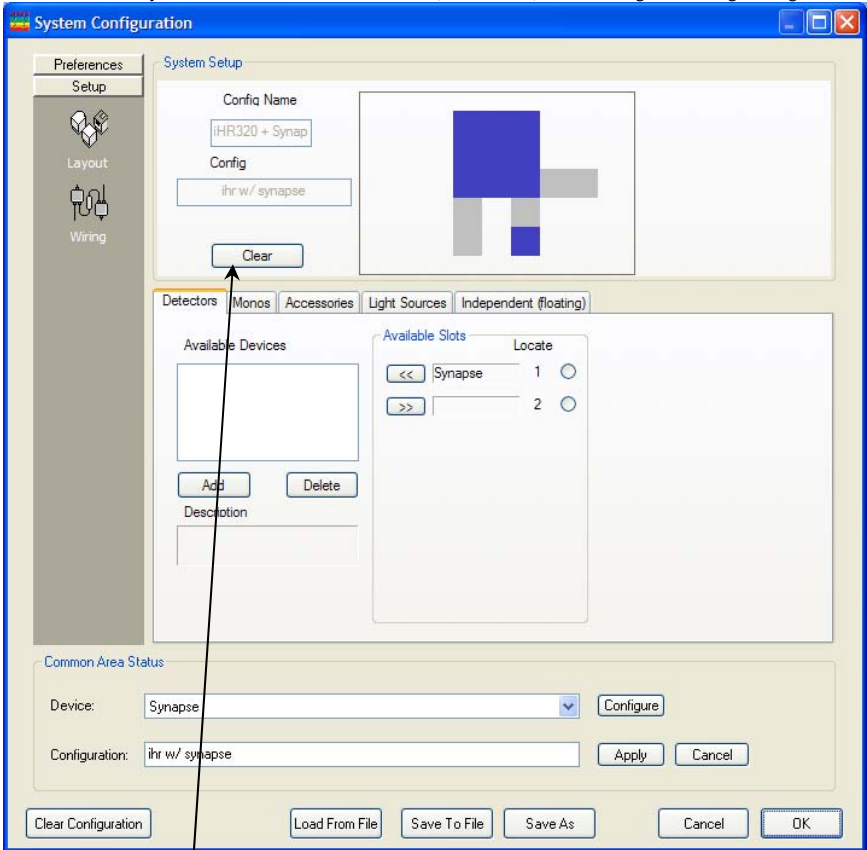
Add a new device to the hardware configuration

- 1 Start SynerJY[®] as explained earlier in this chapter.
- 2 Select Collect>Experiment Setup.
The **Select Hardware Configuration** window opens.
- 3 Select the configuration that you want to edit, and click the Edit button.

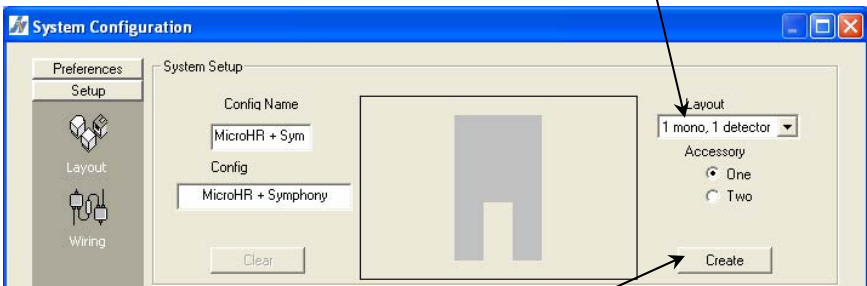


The **System Configuration** window appears.

- 4 Edit the hardware configuration.



a If you are not changing the overall system layout (such as from “1 mono, 1 detector” to “1 mono, 2 detectors,” etc.) proceed to Step 6. If you are changing the system layout, select the **Clear** button in the **System Setup** area, then choose the appropriate **Layout** from the drop-down menu that appears on the right.



b Click the **Create** button to display a visual representation of the system configuration.

- c Remove any devices from the configuration that are no longer going to be included in your system, via the << button.
- d To add a device, select the tab containing the type of device you want to add, then click the Add button.
- e Select the specific type (spectrometer model, detector type, etc.) of device, then click the Next > button.



Note: For multichannel detectors, e.g., Synapse™, choose HJY USB from the Special Types drop-down menu.

- f Enter all Communications Parameters for the device, then click the Next > button.

- g Enter a Device Display Name (the model name appears as the default), then click the Next > button.
- h Depending on the device type being added, either enter the device Accessory Information (for monochromator), Filter Wheel Information (for accessory) or CCD Table Path (for multi-channel detector), then click the Next > button.

- i Select the tab containing the device that you just added, and select the device from the list of **Available Devices** (see “Table of all devices and tabs under which they appear,” page 49).
- j Click the >> button to add the device to the hardware configuration.
- k Type the updated configuration name in the **Configuration** text box.
- l Click the **Apply** button, then click the **OK** button.

The hardware configuration that you just edited appears in the **Select Hardware Configuration** window.

- 5 Select the hardware configuration, then click the **OK** button.

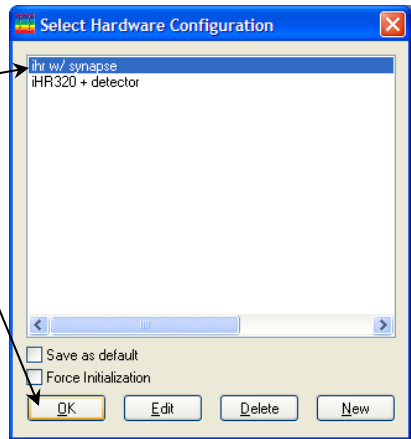


Table of all devices*, and tabs under which they appear

Detectors tab		Detector subtype
Multichannel	Symphony	
	CCD3000	IGA3000 (GPIB = 6 checkbox is active)
		Standard (checkbox is inactive)
	HJY USB	Sygnature/VS140
Synapse		
Single-channel	Lockin	Stanford Research
		EG&G
	Symphony Aux	Voltage radio button
		Current radio button
	SpectrAcq2	Voltage radio button
		Current radio button
		Photon radio button
	DataScan	Voltage radio button
		Current radio button
	Synapse Aux	Voltage radio button
		Current radio button
	Monos tab	
1000M		
1250M		
1269		
1680		
1681		
1702		
1704		
1704		
1870B		
1870C		
1877		
270M		
340E		
340S		
500M		
750M		
750S		
CP140		
CP200		
DH10		
FHR1000		
FHR640		
Gemini 180		

H10			
H20			
HR1000			
HR1500			
HR460			
HR640			
iHR320			
MicroHR Automated			
MicroHR Manual			
THR1000			
Triax180			
Triax190			
Triax320			
Triax550			
Accessories tab	Filter Wheel Controller	Filter Wheel Controller model	Filter Wheel type
Filter Wheel (currently the only OSD accessory)	Default		JY 6 position JY SAS 5 Position MicroHR 5 Position
	DataScan		
	Triax		
	MSD		
	HJY USB	MicroHR iHRSeries	

*Device list is subject to change.

3: Running SynerJY®

Starting SynerJY®

- 1 Insert the SynerJY® hardware key into a free USB port on your computer.

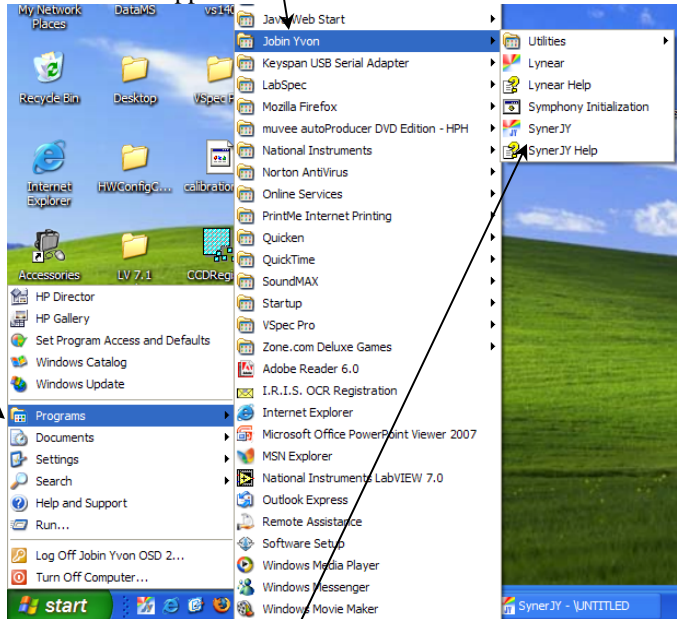


Note: The SynerJY® hardware USB key must be installed in order to run experiments. The USB key may be inserted after installing SynerJY®.

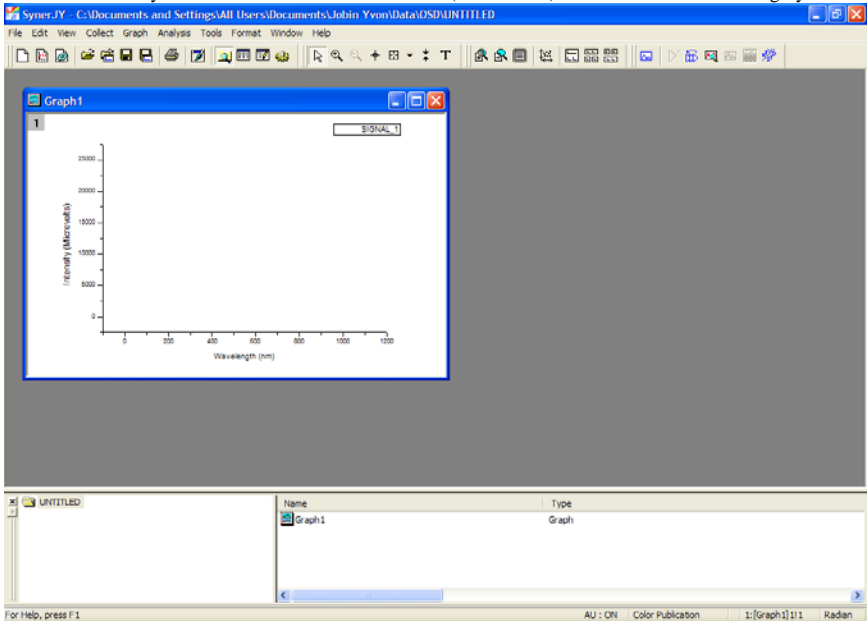
- 2 Either click the SynerJY V3 shortcut, or in the Windows® Start menu, select Programs. A menu appears.




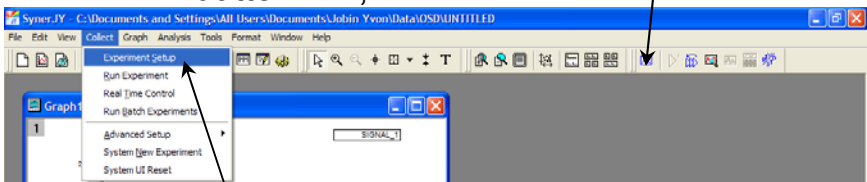
- 3 Choose Jobin Yvon. Another menu appears.



- 4 Choose SynerJY. The main **SynerJY** window opens:

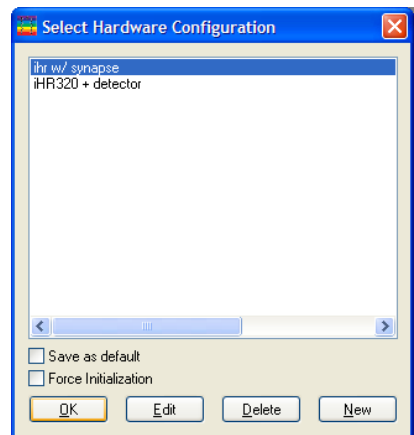


5 Click the Previous Experiment Setup button ,...



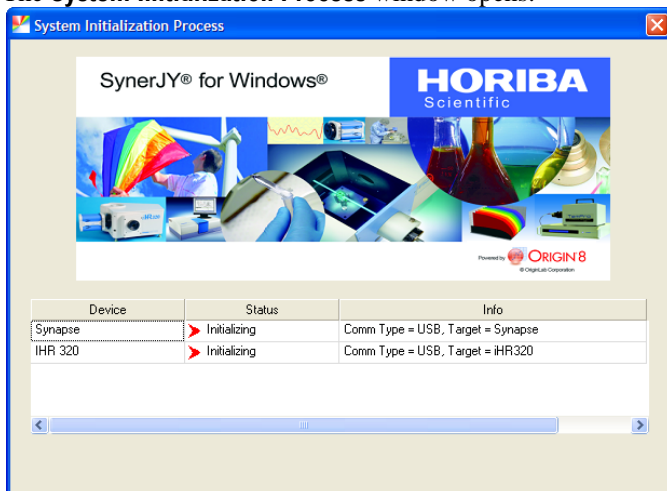
6 ...or in the toolbar, choose Collect, and from the drop-down menu select Experiment Setup.

7 The **Hardware Configuration** window opens.
If you do not select a configuration, the default setup will run automatically.



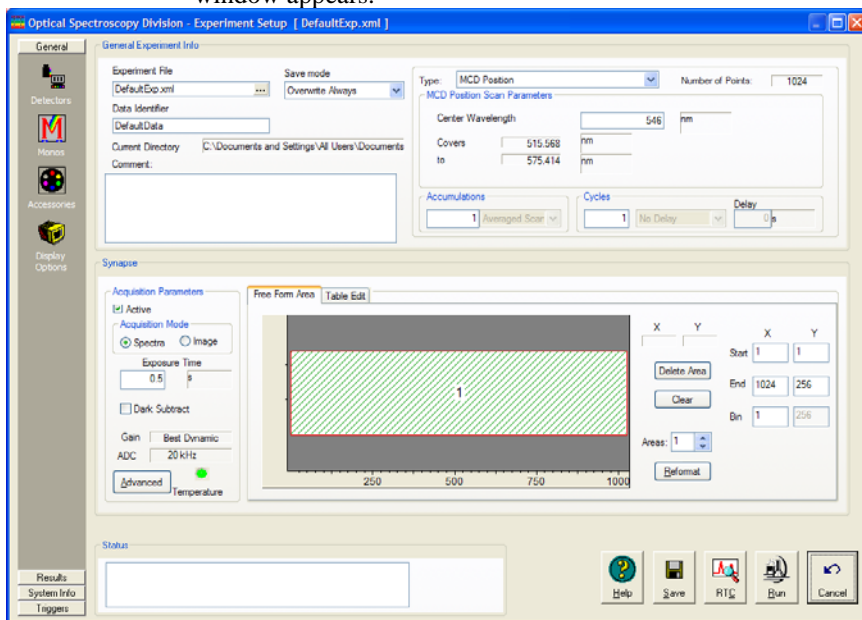
8 Choose a hardware configuration, and click the OK button.

The **System Initialization Process** window opens:



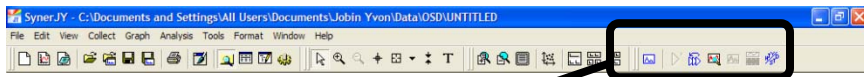
9 Click the Next >> button when it appears.








After successful hardware initialization, the **Experiment Setup** window appears.



Special SynerJY® buttons

In the main **SynerJY** window's toolbar, there are seven special buttons for running experiments in SynerJY®:



- | | | |
|---|---|---|
| Previous Experiment button |  | Modify slightly a previously set-up experiment, and run it. |
| Auto Run Previous Experiment button |  | Run a previously set-up experiment without modification. |
| Run JY Batch Experiments button |  | Run an automated series of experiments, including adjustable repeats and delays between experiments. |
| Real Time Control button |  | Open the Real Time Control window directly, to adjust experimental parameters in real time. |
| Make Overlay File button |  | With an existing graph selected, create an .SPC file for use as an overlay file. The existing graph should contain a single spectrum. |
| 3D Scan to 3D Profile button |  | Extract excitation and emission profiles from an excitation-emission matrix. The active file must be such a data matrix. |
| Switch menu between HJY Software Application and Origin Std. button |  | Switches the menus at the top of the main SynerJY window between SynerJY® and Origin® functions. |

From many of these buttons, upon initial start-up of the software, you can choose a hardware configuration. After a hardware configuration is loaded, each button has its own separate function.


Quick start to run an experiment

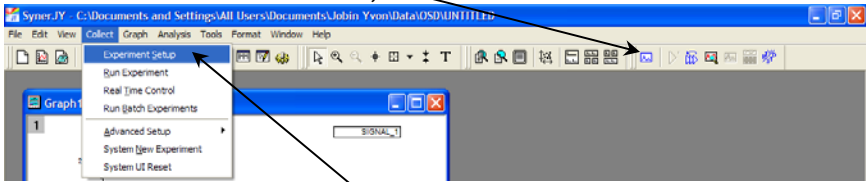
To run an experiment, first you must load or create your hardware configuration. We strongly recommend that you perform the appropriate instrument calibration procedures (see “Installation and Startup Overview: Initial System Setup,” page 1) before collecting data with your system. See the Help file for information about configuring hardware, entering experiment parameters, saving data, types of experiments, correction techniques, and data-processing and -analysis.

- 1 Click the SynerJY V3 short-cut, or in the Windows® Start menu, select Programs>Jobin Yvon>SynerJY.



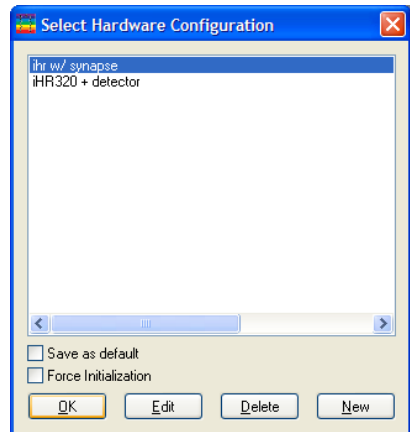
The **SynerJY** window opens.

- 2 Click the Previous Experiment Setup button ,...

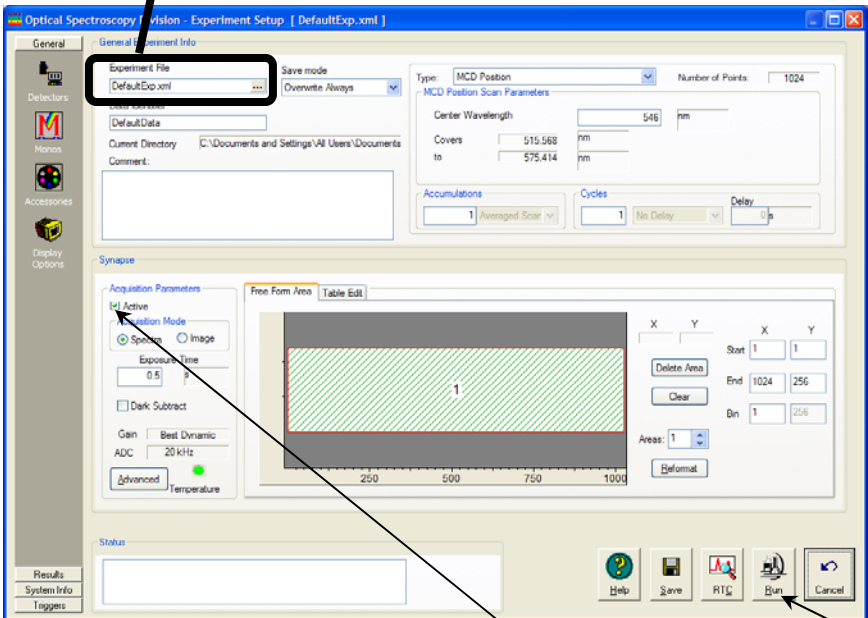


- 3 ...or in the toolbar, choose Collect, and from the drop-down menu select Experiment Setup.

- 4 Choose your hardware configuration in the **Select Hardware Configuration** window, and click the OK button. The **Experiment Setup** window opens.



- Click the ... button in the Experiment File field to open a previously saved file, or click in the field and enter a file name to create a new file.



- If creating a new Experiment File, enter the experiment parameters.



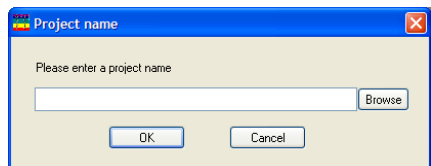
Note: Make sure the Active box is selected to ensure that your detector is active.

- Click the Run button.

The experiment runs. When finished, the **Project name** window appears.

- Enter a Project name, or select the Browse button to open an existing project, then click the OK button.

The data are saved to the project file you just created or opened.



Tips and Tricks

Getting started with SynerJY®

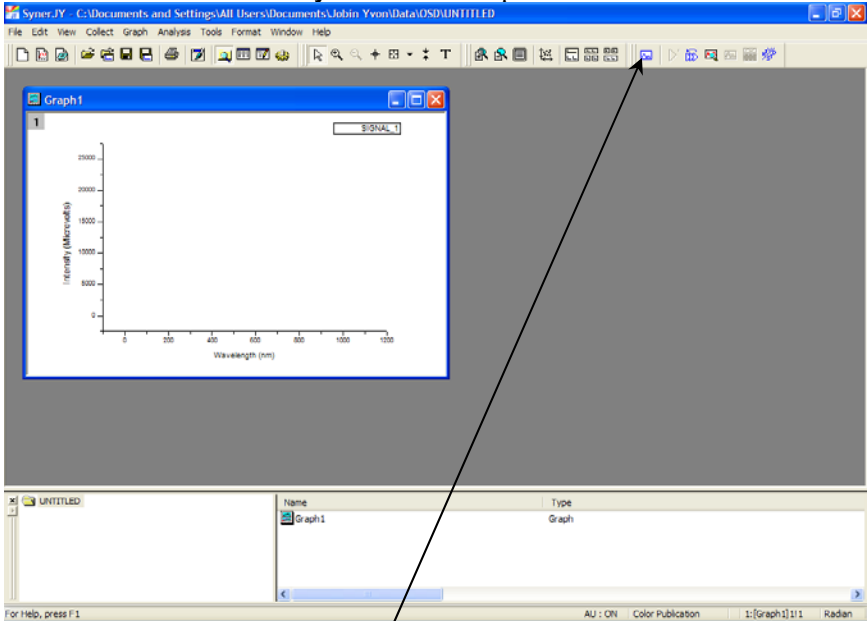
A full set of tutorials for the data display, analysis and programming for SynerJY® is provided in the Help file under Tutorials.


Emulation mode

Emulating the SynerJY® software means letting the host computer act as though the hardware is properly connected, even if it isn't.

- 1 Disconnect the communications cables from the host computer to the devices.
- 2 Start SynerJY®.

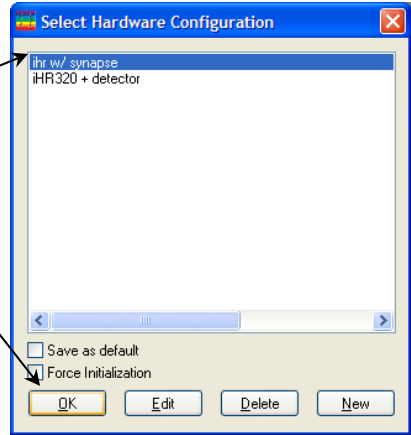
The main **SynerJY** window opens:



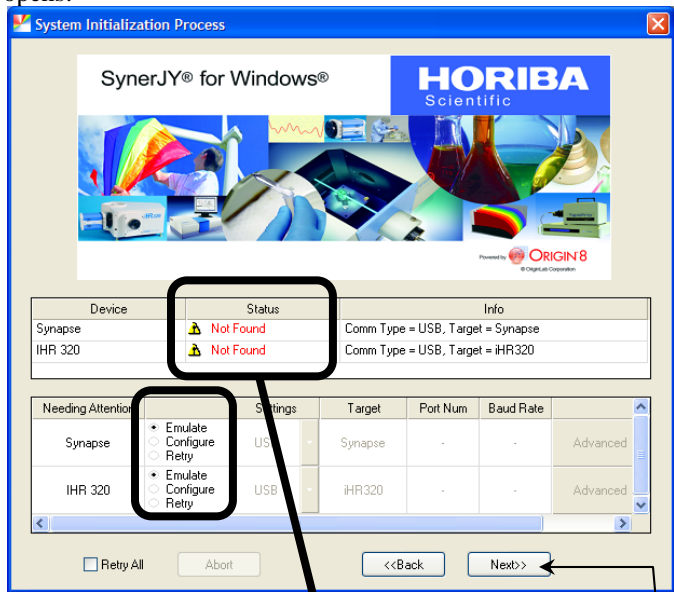
- 3 Click the Previous Experiment Setup button , or in the toolbar, choose lect, and from the drop-down menu lect Experiment Setup.

The **Select Hardware Configuration** window opens.

4 Choose the desired instrument configuration you wish to emulate, then click the OK button.



The **System Initialization Process** window opens:



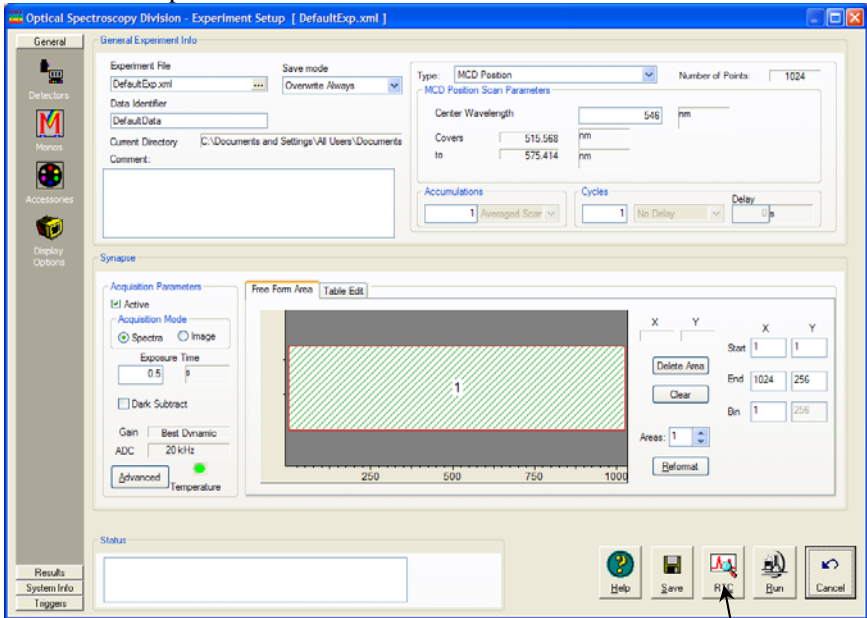
Under the **Status** column, warning symbols appear for the hardware devices, noting that they were **Not Found**. Thus SynerJY® chooses the **Emulate** radio button as the default action for each device.

5 Click the **Next>>** button.

The **Experiment Setup** window appears. SynerJY® is now emulating the instrument.

Real Time Control

To see the effects of adjusting experimental parameters in real time, SynerJY® offers the **Real Time Control** window. In this window, you can open and close shutters, adjust detectors, etc and view immediately the effects on signal, before you start the experiment.

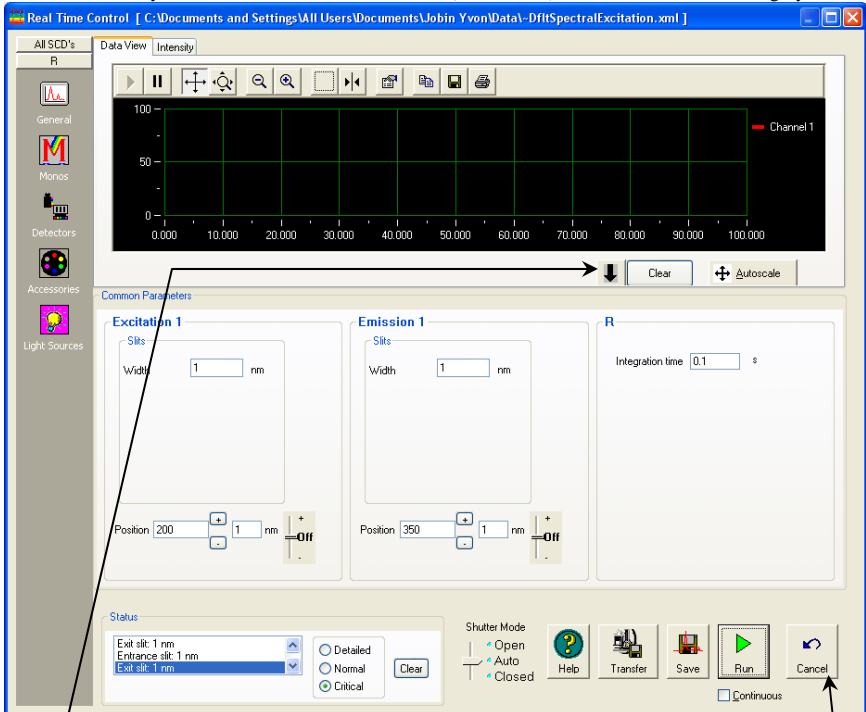


1 In the **Experiment Setup** window, click the



RTC button

2 The **Real Time Control** window appears:



3 Adjust monochromators, spectrometers, detectors, and other devices as necessary, in the various tabs and icons.

4 Click on the downward arrow ↓ to enlarge the graph.

5 Click the Cancel button  to return to the **Experiment Setup** window.

The experimental parameters you entered are transmitted to the **Experiment Setup** window automatically.

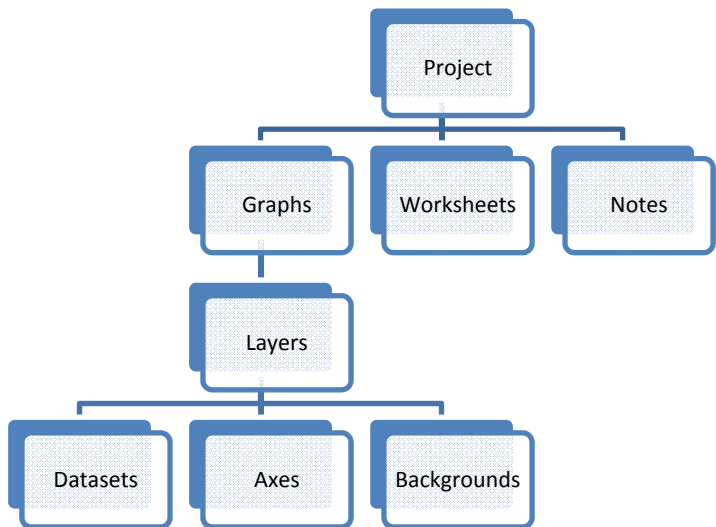
Projects and files

What is a project?

A SynerJY® project file contains all the data worksheets, graphs, layout pages, and notes windows that are open in the workspace when you save the project. These windows include minimized and hidden windows.

A project is a collection of data that contains:

- *Graphs* (visual diagrams of the data)
- *Worksheets* (tables of data)
- *Notes* (comments about the data)



Graphs themselves may contain multiple kinds of information, including separate layers describing the data, the axes, the background colors, etc.

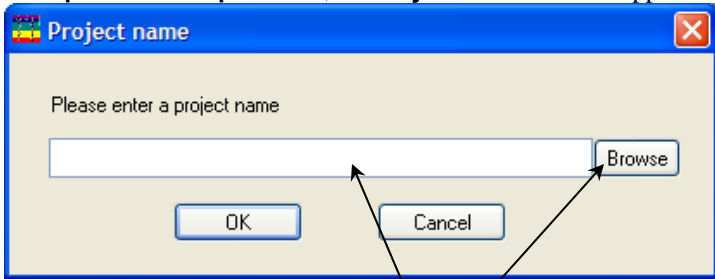
Concerning *worksheets*, a dataset must contain at least two columns, corresponding to x - y data pairs. Multiple y columns may correspond to a single x column.



Note: For greater detail about projects, graphs, layers, and how to merge, combine, and separate them, see the Origin® on-line help files.

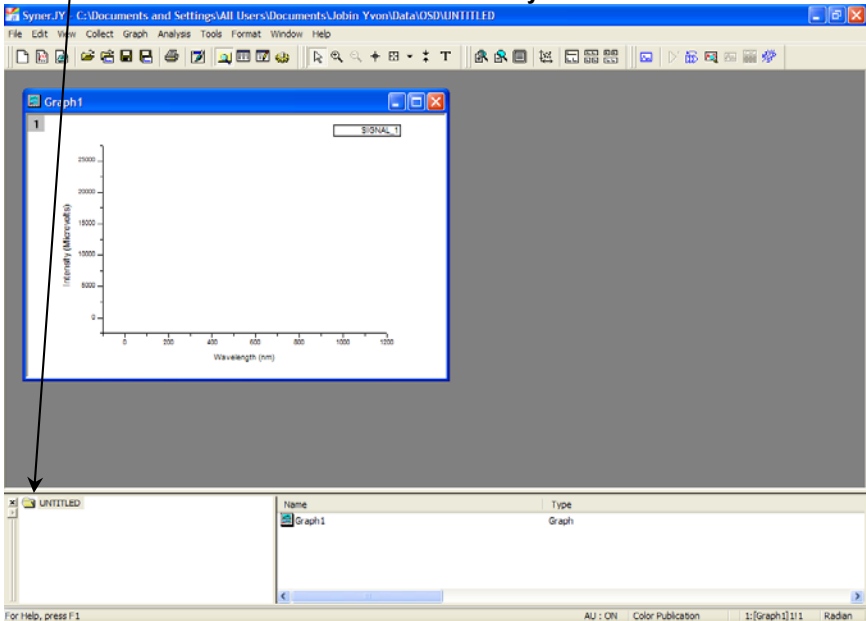
Project names

Each time you start SynerJY®, after you run a new experiment in the **Experiment Setup** window, the **Project name** window appears.



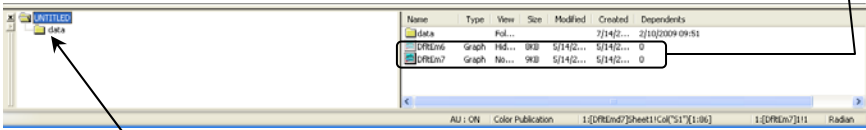
This dialog box asks you to enter a **Project name**. Enter a new or existing project name, or select the **Browse** button to open an existing project. If you enter an existing project name, choose to either **Append** the new data to the existing project or to **Overwrite** the existing file.

The name of the project (here **UNTITLED**) appears in the explorer area at the bottom left of the main **SynerJY** window.

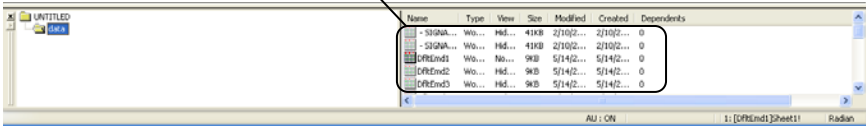


You are only asked to enter the **Project name** once. The data collected for each run of the experiment are saved as data sets (consisting of graphs, worksheets, and notes) within the project file folder.

The data graphs are shown in the root directory (here called **UNTITLED**) of the project. The inactive files have a pale icon.



The actual data worksheets and notes files are stored in the **data** sub-folder of the project. Double-click the **data** folder to open it.



The graph, worksheet, and note file are all named with the same base-file name. The graph has only the base-file name and a number. The data worksheet has the base-file name plus a **d** (to indicate a data file) and a number. The notes file has the base-file name plus an **n** (to indicate a notes file) and a number.

You can create new folders, rename them, and move files around as you wish.

To rename the project, either right-click on the project name and select **Save Project As**, or select **File>Save Project As**.



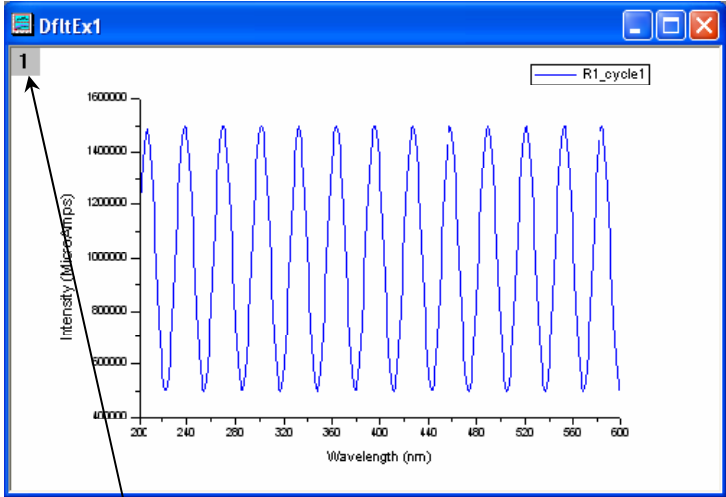
Note: When closing any of the individual windows within a project folder, SynerJY® asks if you want to **Delete**, **Hide**, or **Cancel**. Selecting the **Delete** button **PERMANENTLY DELETES** the selected window. Hiding the window removes it from immediate view, but that window can be viewed again by selecting it from the project window.

Selecting **File>Close** closes the entire project folder and all its associated windows.

See the "Creating a Project File" topic in the **Help** file to view a short demonstration about creating SynerJY® Project Files.

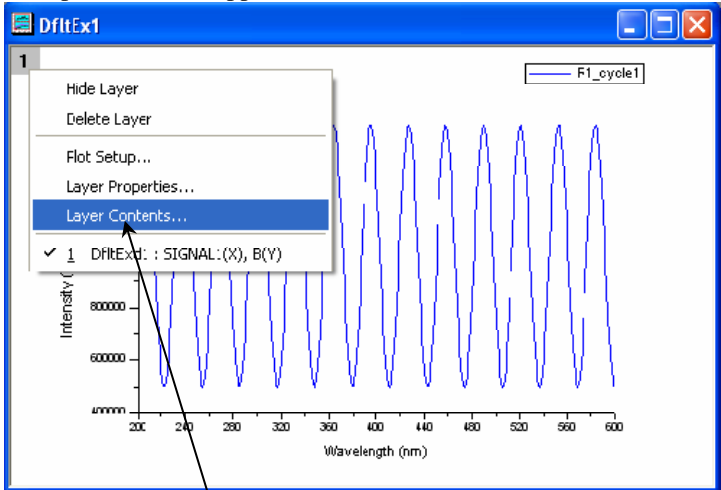
Combining two plots (datasets) into one graph

In its upper left corner, an open graph has a small box with a number in it.



- 1 Right-click on the numbered box in the upper left corner of the graph.

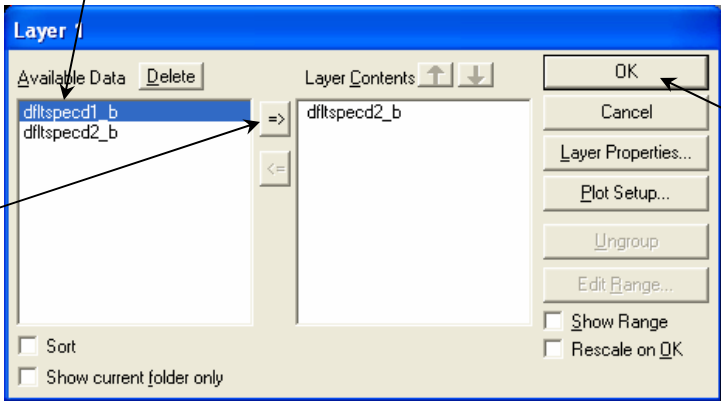
A drop-down menu appears.



- 2 Choose Layer Contents....

The **Layer Number** window opens. In the Available Data column, a list of x - y data available to plot is shown:

- Click on the x-y dataset you wish to add to the plot.



Note: For datasets with multiple y columns with one x column, the first y column plus the x column is listed as ***_a, and the second y column plus the x column is listed as ***_b, etc.

- Choose the => button to add this dataset to the plot.
The dataset appears in the Layer Contents column.
- Adjust its order (top to bottom) with the ↑ and ↓ buttons.
- Click the OK button to cause the dataset to appear in the graph.

The **Layer Number** window closes.

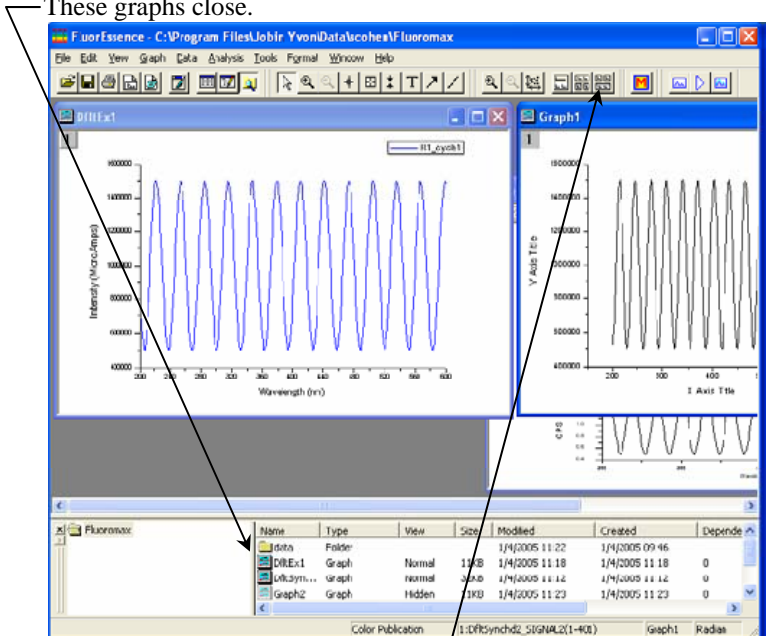
Merging two or more graph windows

This puts all the open layers on one single page.

- 1 Close all graph windows you don't want to merge.

In the Project Explorer at the bottom of the main **SynerJY** window, double-click on the names of the undesired open graphs.

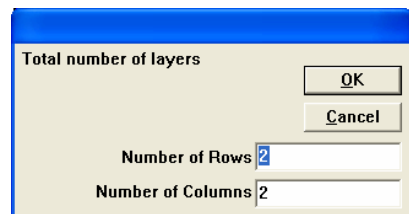
These graphs close.



- 2 Click the Merge button .

All the windows are combined onto one sheet of paper. This is called a “graph”. To preserve the old graphs while creating a new, overlaid version, answer Yes to the question, “Do you wish to keep the old graphs?”

- 3 A window appears asking you for numbers of rows and columns.




To exactly overlay the graphs, choose 1 row and 1 column.

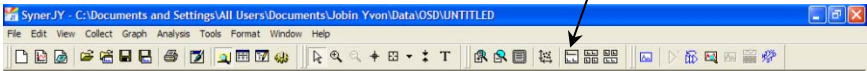


Note: Each layer has its own number in the upper left corner.

Splitting two graphs by extraction

This extracts each plot to a separate layer in the graph.

- 1 Click on the desired plot to activate it.
- 2 In the toolbar, choose the Extract to Layers button .



Note: Other buttons available using the *Customize Toolbar* command are the button for splitting each layer into a separate graph window, and the button for merging all open graph windows into one graph. See the Origin® on-line help for more information.

Saving and recalling a file



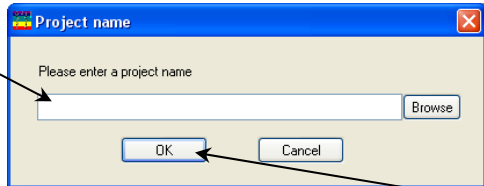
Note: To determine if you are in an untitled, new experiment, examine the path shown at the top of the main **SynerJY** window. It should show the word "UNTITLED" at the end of the path.

To save a project, when in a new, untitled project

1 Run an experiment.

When the experiment is complete, the **Intermediate Display** disappears. The **Project Name** window appears.

2 Enter a new name for the project, or browse for an existing one.



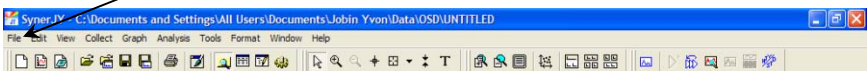
Note: If you are using an existing project name, the software will allow you to overwrite existing data, or append the new data to the project.

3 Click the OK button.

The path of the project appears at the top of the main **SynerJY** window. The data are now saved.

To save data into a new project when another project is already open

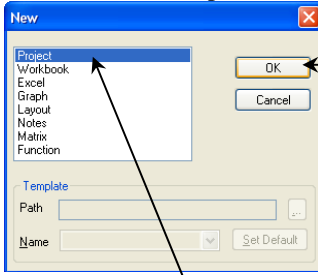
1 Run the experiment. 2 Choose File.



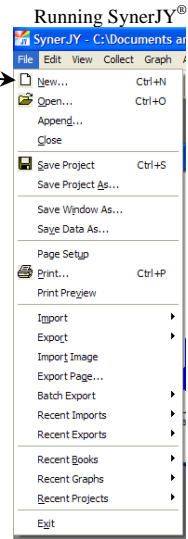
The File menu opens:

3 Choose New....

The **New** window opens:



4 Choose Project from the list of objects to create, then click the OK button.



Note: Only a Graph or a Matrix lets you pick a new Path and Name.

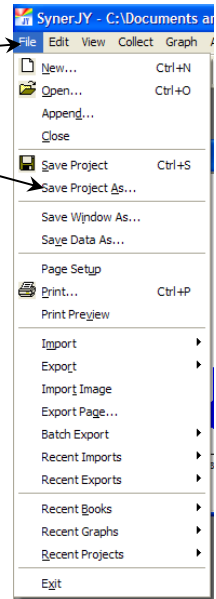
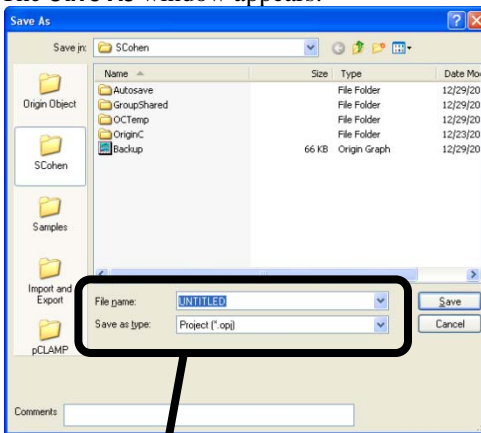
The data are now in an untitled project. Next you must create the name for the file.

5 Choose File again.

The File menu opens.

6 Choose Save Project As....

The **Save As** window appears:



7 In the File name field, enter a name. In the Save as type field, choose Project (*.opj) from the list.

8 Click the Save button.

Now the project has a new name.

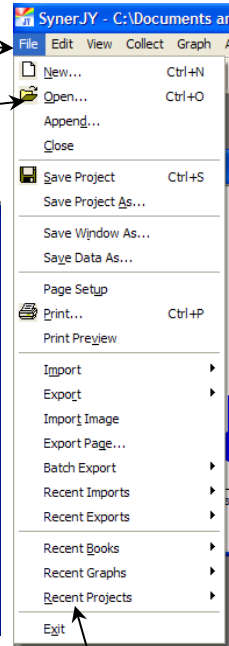
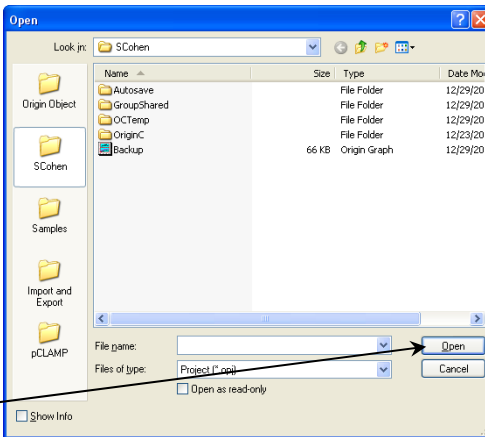
To recall and open an existing project

1 Click File.

The File menu opens.

2 Choose Open....

The **Open** window appears:





3 Browse for the desired project, or examine the Recent Projects list.


4 Click the Open button.

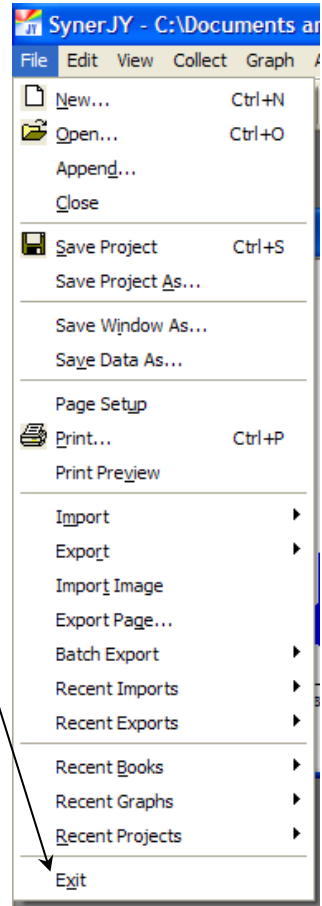
The project opens.

4: Shutting Down SynerJY®

- 1 Save experiment files (and data files, if created).
- 2 In the **Experiment Setup** window, click the

Close button  or the Cancel button 

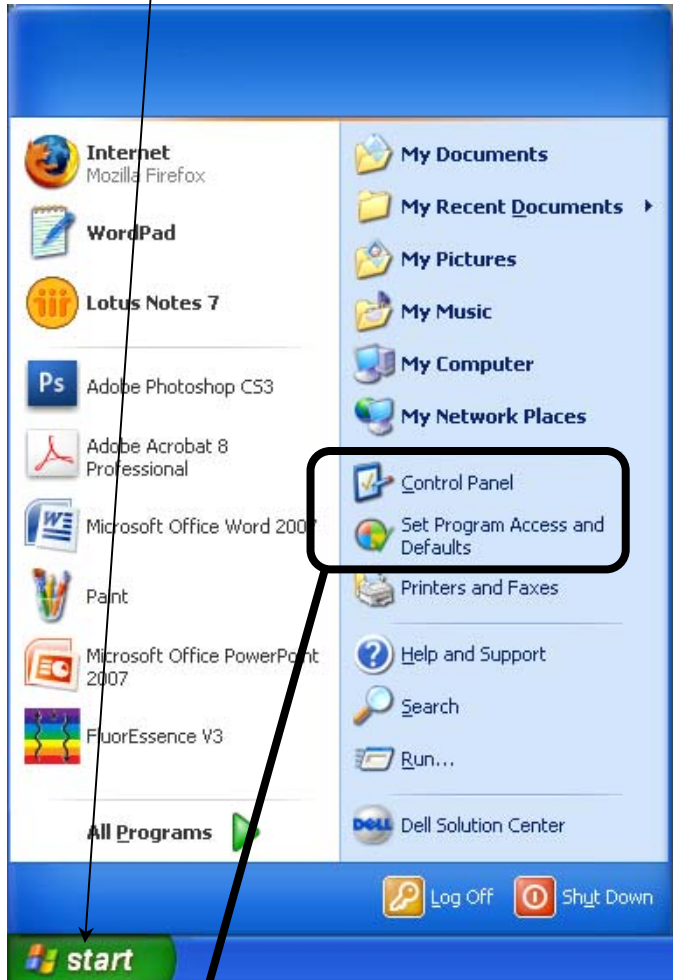
- 3 Close the main **SynerJY** window, using either the Close button , or, in the File drop-down menu, Exit.



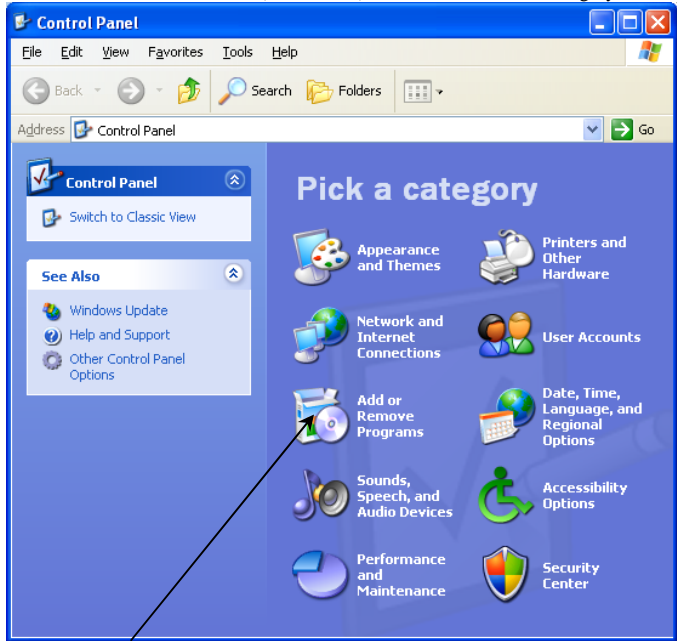
Note: Shut down devices **after** shutting down the software.

5: Uninstalling SynerJY®

- 1 Close SynerJY®.
- 2 Click the Start button to open the Start menu.

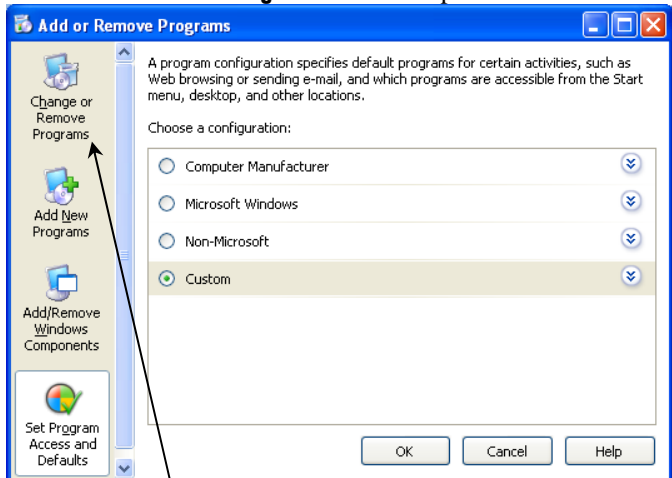


- 3 There are two ways to continue:
 - a Choose Set Program Access and Defaults, or...
 - b Choose Control Panel.
The **Control Panel** opens:



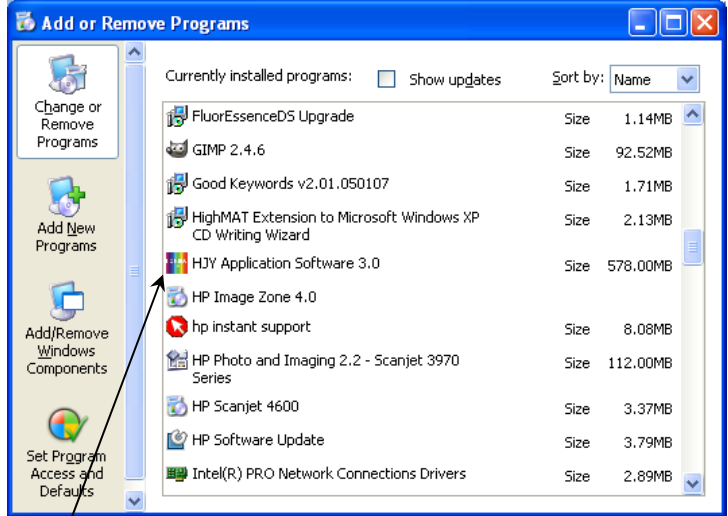
Click Add or Remove Programs.

- 4 In both cases, continue here.
The **Add or Remove Programs** window opens.

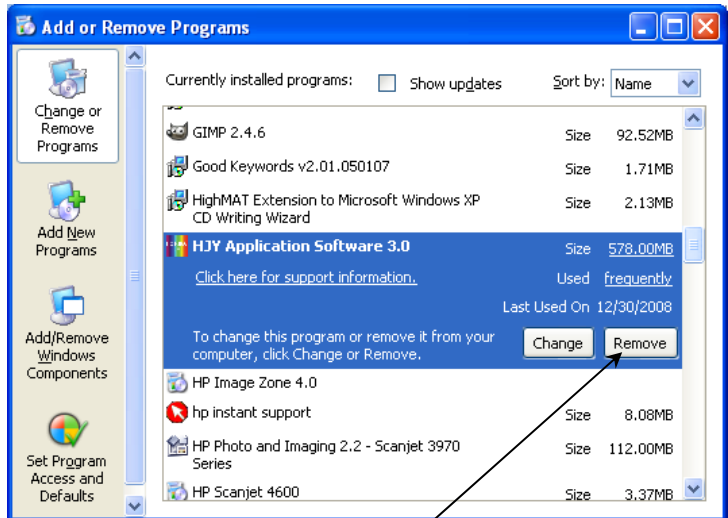


- 5 Click the **Change or Remove Programs** icon.

A list of currently installed programs on the host computer appears:



- 6 Click HJY Application Software 3.0, which becomes active:



- 7 Click the Remove button.
- 8 Follow the instructions to remove SynerJY®.

The uninstall program removes program files, folders, and registry entries. The SynerJY® Data folder is not removed.

- 9 You may need to reboot the host computer.

SynerJY® is removed from the host computer.

10 Remove the USB key from the USB port.

6: SynerJY®

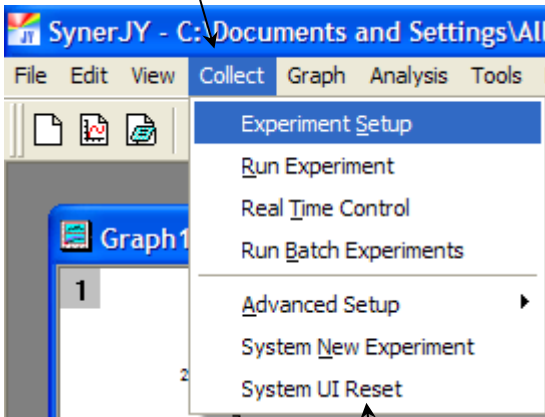
Troubleshooting & Technical Support

Troubleshooting

If the special SynerJY® buttons are grayed-out,



- 1 Choose Collect.



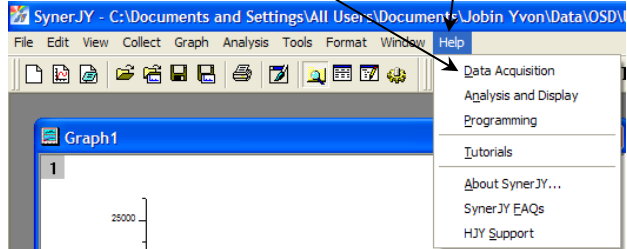
A drop-down menu appears.

- 2 Choose System UI Reset.

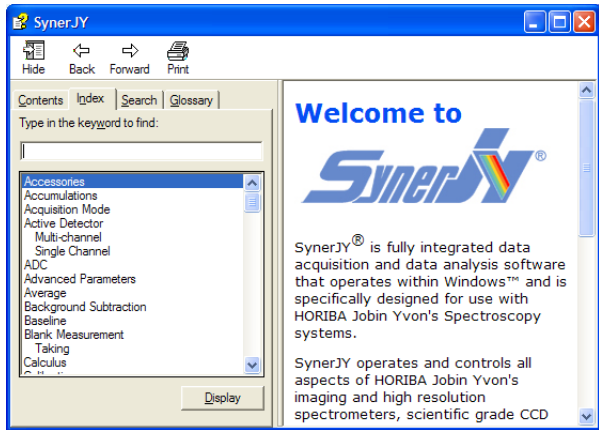
The buttons should become active again.

On-line help files

- 1 In the main **SynerJY** window, choose the Help menu.
- 2 Choose Data Acquisition.



Context-sensitive on-line help files appear. Resize the window to your liking.



If you have a technical problem,

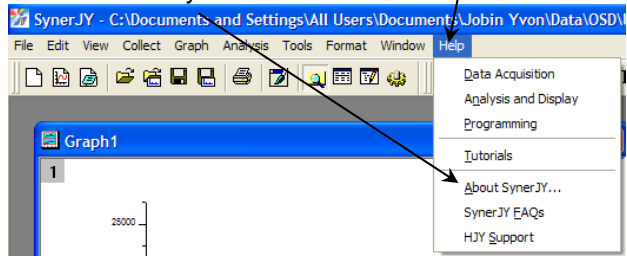
- 1 Please consult the SynerJY® help files and this User's Guide, as well as all other manuals supplied with the system.

If you are unable to solve the problem,

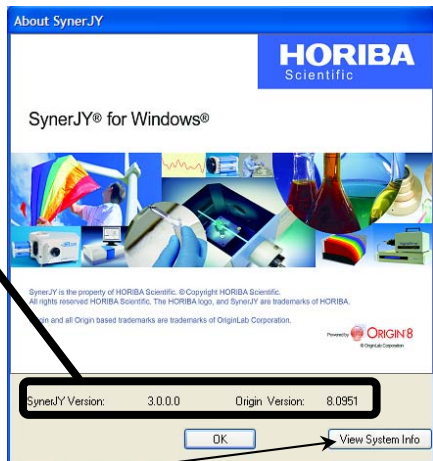
- 2 Note the problem and any accompanying error messages.
- 3 Determine SynerJY®'s version number.

a In the main **SynerJY** window, choose the Help menu.

b Choose About SynerJY....

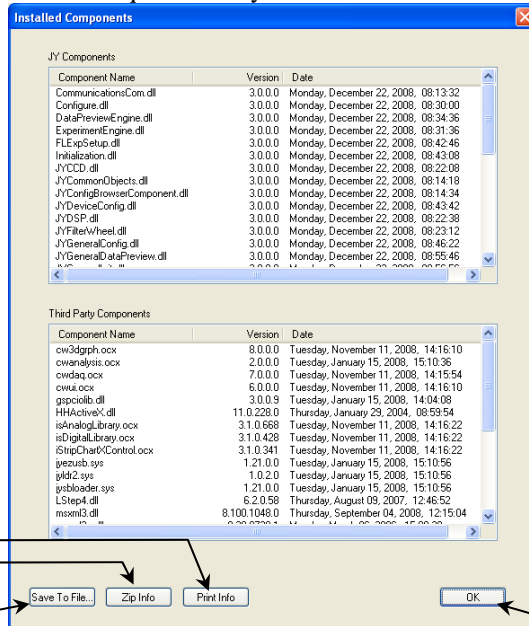


The **About SynerJY** window opens. Near the bottom are the SynerJY® and Origin® version numbers.



c Click the View System Info button.

The **Installed Components** window appears, displaying all the software required for SynerJY®.



- d Record the information by clicking the:
 - Save To File... button, which saves the information to a file;
 - Zip Info button, which compresses the information while saving it;
 - Print Info button, which prints out the software information.
- e Click the OK button to close the **Installed Components** window.
- f Click the OK button to close the **About SynerJY** window.

- 4 Write down the software and system information, including version number, along with the purchase dates, model numbers, system configuration, and serial numbers of the instrument and its accessories.
- 5 Please contact a HORIBA Scientific OSD Customer Service Representative by telephone or e-mail (listed below), and be prepared to provide:

- a Software system information
- b Description of the malfunction and the attempts, if any, to correct it.
Note any error messages observed, and have any relevant spectra available with all instrument parameters (detector type, integration time, etc.) so we can assist you.

Contact information

Via the internet:

World-Wide Web www.horiba.com/scientific
E-mail info.sci@horiba.com

In North America:

Telephone 1-732-494-8660 x 268
Fax 1-732-549-5125

In France:

Telephone +33 (0) 1 64 54 13 00
Fax +33 (0) 1 69 09 93 19

Worldwide:

China +86 (0) 10 6849 2216
Germany +49 (0) 89 462317-15
Italy +39 (0) 2 57603050
Japan +81 (0) 3 58230141
UK +44 (0) 20 8204 8142

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Key to the entries:

Times Roman font	subject or keyword
Arial font	command, menu choice, or data-entry field
Arial Condensed Bold font	window
Courier New font	file name or expression

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