



Quick Start Guide: Welcome to OceanView

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Note: Do NOT connect the spectrometer to the computer until you install the OceanView software. Follow the instructions in the Installing OceanView section below to properly connect and configure your system.

Introduction to OceanView

Welcome Screen

When you launch your OceanView application, the Welcome screen appears asking if you would like to run a spectroscopy wizard, open a previously stored project or session or open in Quick View (formerly Scope) mode showing raw, unprocessed data.

- Run a Wizard: Asks you to select your data source (spectrometer), and then allows you to choose the type of spectral analysis you want to perform.
- Load Project: Loads a previously stored project.
- Restore Previous Session: Loads the last Schematic and View window configurations used.
- Quick View: Displays the device signal in Quick View mode.

Data Window

- Unprecedented customizability with graph, table, scalar and color views
- Used to monitor measurement
- Provides controls to maintain measurement (e.g. store new background/reference)
- Hides other controls to minimize clutter
- Highly customizable with persistence to remember user settings

Schematic View

The Schematic View presents data from your device(s) in a diagram format. The Schematic View provides you with all of the functionality of the Window view, plus the following enhanced capabilities:

- Algorithm nodes – allow for math functions such as ratios, adding multiple spectra, and adding a constant to spectra.
- Set a subrange – ability to focus on a specific subset of the spectrum
- Interpolate spectral data – evenly space data from two or more spectra to analyze them mathematically
- Retrieve device properties such as serial number, firmware version, wavelength and total number of pixels
- Send a single value (such as TEC temperature, integral, average over a specific wavelength range) from the device to the Scalar view to analyze the value over time
- Preview spectra in graphs at every step in your process
- Easily add new Graph and Table Views

Persistence

OceanView remembers user settings such as acquisition parameters, file locations, customized graph layout and other user settings. The following features are persisted in OceanView:

- Acquisition parameters and controls
- Graph settings
 - Gridline settings
 - Background color
 - Graph fonts
 - Tick mark spacing
 - First 20 trendline colors
 - Annotations
 - X and y axes
 - Cursor position
- File locations
 - Saved experiments
 - Calibration files
 - Location for exported data files

Installing OceanView

OceanView Minimum System Requirements

Monitor resolution: 1024 X 768 or higher
RAM: 1.5 GB or higher
Processor: Intel Core II Duo @ 1.4 GHz or better
Intel Core Duo @ 2.0 GHz or better
AMD Athlon Neo X2 @ 1.6 GHz or better
Intel Atom @ 2.13 GHz or better
AMD Athlon 64 x2 @ 1.7 GHz or better
Note: Most processors produced in 2010 and later should be okay.
HD Space: 300 MB free space

Note: Do NOT connect the spectrometer to the computer until you install the OceanView software. Follow the instructions below to properly connect and configure your system.

Installation

OceanView is downloaded from the OceanView download link you received in your email.

Installation instructions are included below for installing OceanView on each of the following operating systems:

- Microsoft Windows – XP, Vista, 7, 8; 32-bit and 64-bit
- Apple Macintosh – OSX 10.5 or higher on Intel processor
- Linux – Any version released for an x86 or amd64 platform since 2010 Example: CentOS(Version 5.5), and Ubuntu (version 10.4LTS)

Installing on a Windows Platform

Total download is approximately 64 MB (32-bit) or 71 MB (64-bit).

► Procedure

1. Close all other applications running on the computer.
2. Start Internet Explorer.
3. Navigate to the link you received to the OceanView software in your email and click on the OceanView software appropriate for your Windows operating system.
4. Save the software to the desired location. The default installation directory is \Program Files\Ocean Optics\OceanView.
5. The installer wizard guides you through the installation process. The OceanView icon location is Start | Programs | Ocean Optics | OceanView | OceanView and the current user's desktop.

Installing on a Macintosh Platform

You must be logged on as an administrative user to install OceanView on your Mac. Total download is approximately 35 MB.

Note: Newer versions of MacOSX do not ship with Java so you may need to manually install a recent Java release before installing OceanView. Instructions to download a recent Java release for different versions of OSX can be found at:

<http://support.apple.com/kb/HT5648>

There is also a direct link for the Java for OSX 10.7.3 and newer at

<http://www.java.com/en/download/manual.jsp#mac>

► Procedure

1. Navigate to the link you received to the OceanView software and download the installer (OceanViewSetup_Mac.dmg).
2. Double-click the OceanViewSetup_Mac.dmg file to mount the disk image. A new OceanView icon resembling a disk drive appears on your desktop. The new icon should open automatically (if it doesn't, double-click it).
3. Drag the OceanView.app icon to the Applications folder icon to install. OceanView can then be launched from the Applications folder. If desired, double-click the Applications folder and drag the OceanView icon from Applications to the Dock to be able to launch it more conveniently.
4. When the installation is complete, drag the OceanView drive icon to the trash can.

Installing on a Linux Platform

Total download is approximately 75 MB (32-bit) or 67 MB (64-bit).

► Procedure

1. Navigate to the link you received to the OceanView software in your email and download the appropriate Linux OceanView installer.

The example below is for a 64 bit installer downloaded to the Desktop. Change 64 to 32 and the file location as needed for your installation.

2. Start a terminal window and enter the following commands:

```
chmod 755 ~/Desktop/OceanViewSetup_Linux64.bin  
sudo ~/Desktop/OceanViewSetup_Linux64.bin
```

You are prompted for your password, which allows you to execute the setup as root. Contact your system administrator if you do not have the password. If the sudo command does not work (it may not be set up for your user account), then enter the following:

```
su  
(enter password for root)  
~/Desktop/OceanViewSetup_Linux64.bin
```

The Linux version of OceanView requires some libraries that may not be installed by default, depending on the Linux distribution. The following are libraries are required, and are not provided as part of OceanView:

- libstdc++ version 6 or newer

- libXp version 6 or newer
- libusb version 0.1.10 or newer (should be provided in a libusb package or can be downloaded from <http://libusb.sourceforge.net/download.html#stable>).

It may be necessary to modify SELinux (Security Enhanced Linux) restrictions before OceanView will run. It is possible to remove SELinux auditing by running 'setenforce Permissive' as root or by customizing your SELinux policies. The OceanView installer does not modify system security settings.

Note:

The default installation directory is /usr/local/OceanOptics/OceanView.

A symbolic link is put in /usr/bin so that you can enter OceanView on any command line to start the program.



The OceanView icon location varies by installation, but will be under either Applications or Other under the Application Launcher menu.

Device Driver Issues with Windows 64-Bit

Hardware device driver installation is seamless on Microsoft Windows 32-bit operating systems when you connect your spectrometer to your computer. However, 64-bit Windows systems require a bit more care when connecting your spectrometer for the first time.

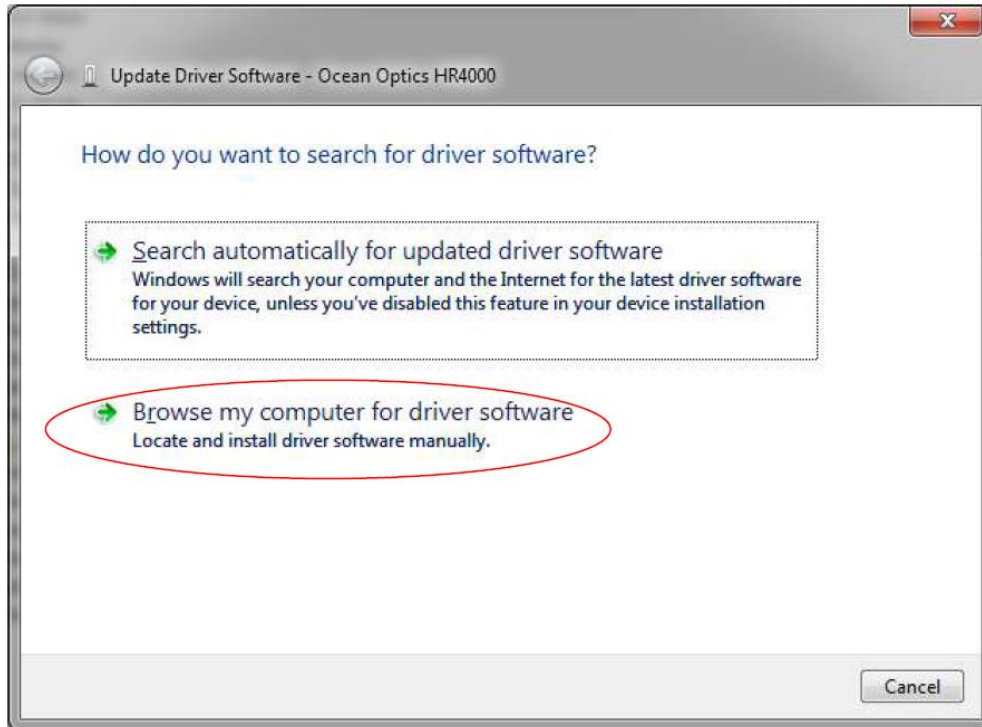
If your spectrometer is not recognized by OceanView running on a 64-bit computer, you need to manually install the spectrometer drivers using the procedure below.

Windows 64-bit Driver Installation Process

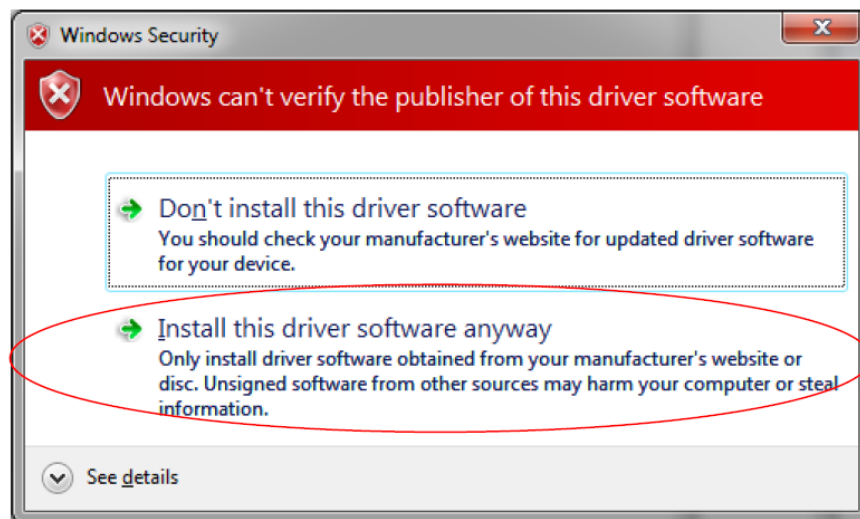
Use the following procedure when connecting your spectrometer to a Windows 64-bit system. Steps may vary slightly depending on the version of Windows.

► Procedure

1. Open the Control Panel and click Device Manager.
2. Under Other devices, right-click on the Ocean Optics spectrometer and choose update driver software. The following screen appears:



3. Choose Browse my computer for driver software.
4. Navigate to C:\Program Files\Ocean Optics\OceanView\SystemFiles and click OK. Then click Next.
5. When the following pop-up screen appears, choose Install this driver software anyway.



6. When the driver installation is successful, the software will recognize your spectrometer.

Starting Your 10 Day Free Trial

1. Double-click the OceanView icon on your Desktop to start the software.
2. Click the Cancel button in the OceanView Product Activation dialog box that opens to start your 10 day free trial with a fully functional version of OceanView.

Note: All data and projects saved during your 10 day free trial will be available when the software is activated using a valid product key. Contact info@oceanoptics.com to purchase OceanView licenses.

Using Your Product Key to Activate Your Software

Note: An internet connection is required to activate your software using a valid product key.

If an internet connection is not available, contact info@oceanoptics.com for the offline activation procedure.

1. Double-click the OceanView icon on your Desktop to start the software.
2. Click next in the OceanView Product Activation dialog box to enter your product key.
3. Copy the product key from the email you received and paste it into the product key box.
4. Click the Register Software button to validate your product key.
5. Click Finish to complete the software registration.

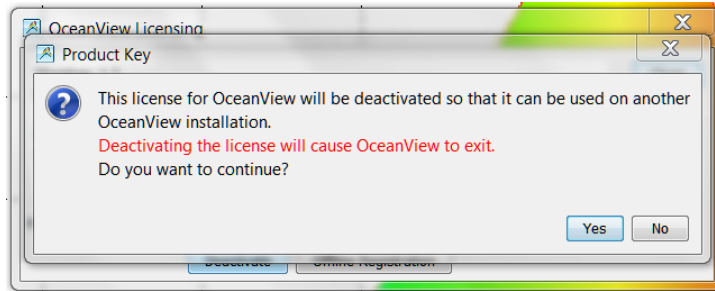
If you see the message below, check your internet connection and click the Register Software button again. If the computer is connected to the internet and you still cannot register your software contact info@oceanoptics.com for assistance.

**There is a problem with Licensing.
Contact Ocean Optics, Inc. for help.**

Deactivating Your Product Key for Software Installation on another Computer

With the exception of multi license packs, your product key is only valid for use on two computers at a time. A deactivation option is available in OceanView if you want to deactivate your product key on one computer so you can use it on another computer.

1. Go to Help | Licensing.
2. Click Deactivate and the following warning will appear:



3. Click Yes to deactivate the license.
4. OceanView will close and the license will be available for use on another computer.

Frequently Asked Questions

How do I navigate the new OceanView user interface?

When you start OceanView, a Welcome screen appears asking what you would like to do.



The options are to:

- Run a Wizard: Asks you to select your data source (spectrometer), and then allows you to choose the type of spectral analysis you want to perform.

- Spectroscopy
 - Quick View Minus Background (formerly Scope Minus Dark)
 - Absorbance
 - Reflection
 - Transmission
 - Raman
 - Quick View Fluorescence
 - Relative Irradiance
 - Absolute Irradiance
- Color
- Photometry
- Concentration
- Energy, Power, Photons
- Load Project: Loads a previously saved project.
- Restore Previous Session: Reloads the Schematic and view window configurations as they were when the software was closed.
- Quick View: Displays the spectrum in Quick View mode showing raw, unprocessed data (previously referred to as Scope mode).

Note: OceanView has extensive context sensitive help. Click the Help button in any dialog box for more details. Tooltips are also available by hovering over a button or window for more information. Help is also available using the Help option in the top menu.

Run a Wizard

Select Run a Wizard and click OK to open the Wizard selection dialog box. Click Spectroscopy to open the Select Spectroscopy Wizard dialog box. Select the processed mode you want to enter and Click Next. The Wizard will take you through all the necessary steps to optimize your acquisition and enter the desired processing mode.

The Wizards can also be accessed by clicking the Create a new spectroscopy application button or by clicking Create a new spectroscopy application option from the File menu.



Load Project

With the new Persistence functionality and ability to save and reload projects, you can quickly enter a processed mode by reloading a previously saved method. Select Load Project to view the list of previously saved projects. Click the project you want to load and click Ok. Your

project will reload and even warn you if you are reloading Reference or Background data that should be updated to ensure accurate measurements.

Note: To load a project, you must have the same spectrometer(s) that were used to create the project connected to the computer before you can load the project. The project will not load if the spectrometers used to create it are not connected to the computer.

You can also load a project by clicking the Open project button or clicking the Open project option from the File menu.



Save projects by clicking the Save project button or selecting the Save project option from the File menu.



Restore Previous Session

Select Restore Previous Session and click OK to open the software just as you left it when you last closed it. The settings and customization from the previous session will reload. If the previous session included Reference and Dark data, you will be warned that you are reloading data that should be updated to ensure accurate measurements.

Note: To restore a previous session, you must have the same spectrometer(s) that were connected when you last closed OceanView connected to the computer before you can reload the session. The session will not load if the spectrometers used to create it are not connected to the computer.

Quick View

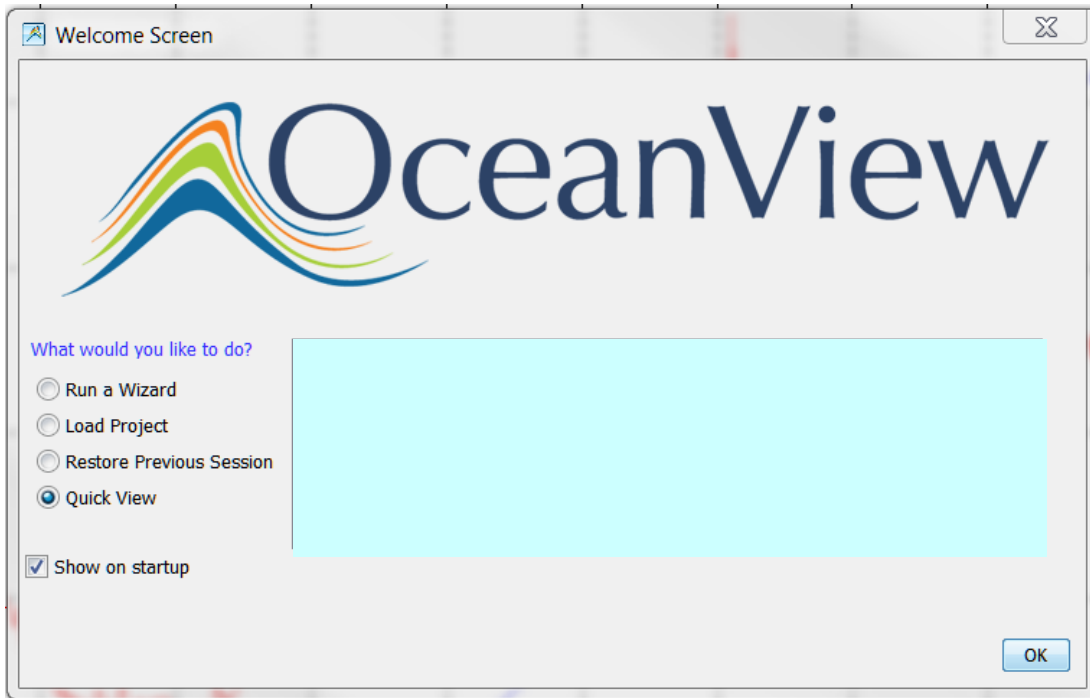
Select Quick View to display spectra for all the attached devices in a raw, unprocessed data view useful for setting acquisitions parameters and troubleshooting. This mode was previously referred to as Scope mode.

How do I get into Scope mode?

Scope mode has been renamed Quick View in OceanView. To display a Quick View spectrum for all the attached devices:

- Select the Quick View option from the Welcome Screen and click OK.
- Click the x in the upper right hand corner of the Welcome Screen.

Tip: Remove the checkmark from the “Show on startup” option in the Welcome Screen and the software will also start in Quick View.



Where are my Acquisition Controls?

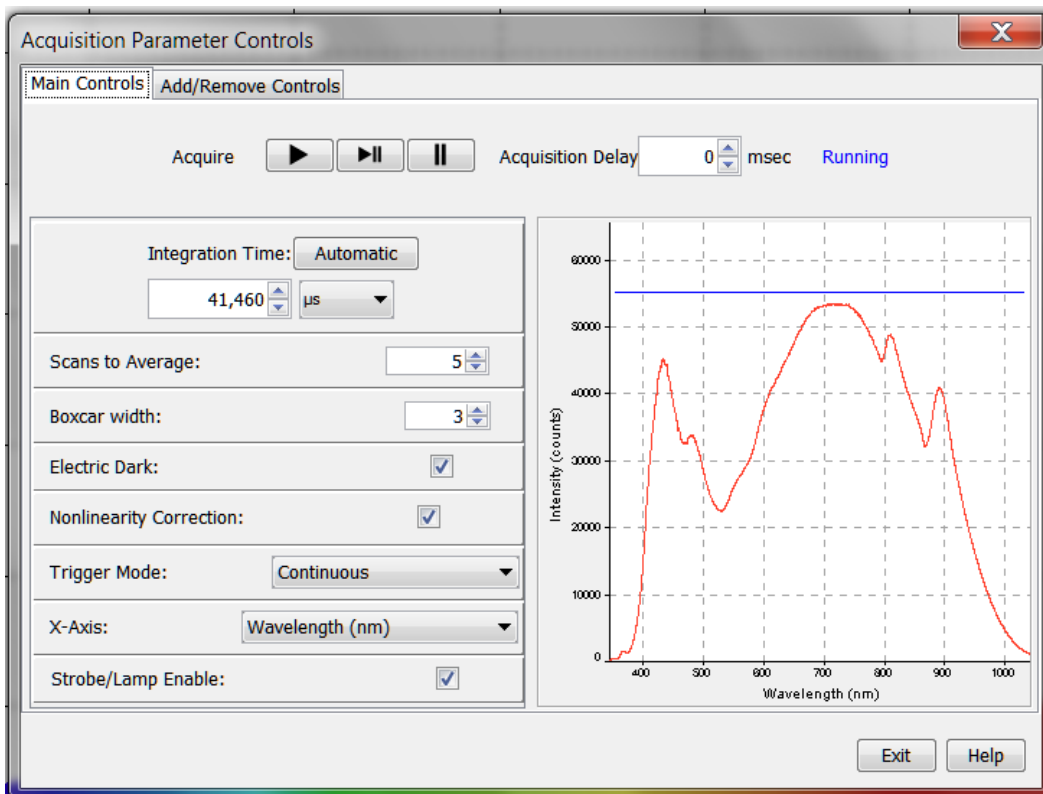
To provide a cleaner, more relevant user interface and easier selection of an acquisition when multiple acquisitions are running, all the acquisition controls have been moved to the Acquisition Control Panel accessed in the Graph View window by clicking the Acquisition Controls button.



The Acquisition Control Panel can also be accessed in the Schematic window by clicking the Acquisition Controls node.



When you click the Acquisition Controls button in the Graph or Schematic View, the Main Controls tab of the Acquisition Parameters Controls opens.



Note: Different types of acquisitions are available for different devices including: Spectrometer, I²C, SPI, Board Temperature, Thermo-Electric Cooling and Analog In. The controls available in the Acquisition Parameters Controls vary based on the type of acquisition is selected.

Add additional acquisition controls to the Main Controls tab by clicking the Add/Remove Controls tab and checking the boxes next to the desired feature. When checked, the controls for these features will show up on the Main Controls tab. Unchecking a feature does not disable the feature. It only hides the controls on the Main Controls tab. The spectrometer type will determine which controls are available in the Add/Remove Controls tab. The “Spectrometer” feature is already checked and grayed out. This feature places certain necessary spectrometer controls on the “Main Controls” tab and cannot be removed.

Note: If a control is shown in the “Main Controls” tab by selecting it in the "Add/Remove Controls" tab that setting will be pushed to the device before every update. If multiple acquisitions have visible controls for the same feature on the same device, the device will alternate between them, possibly resulting in rapid changes of state (e.g. lamp control or

How do I get into Scope - Dark mode?

Background subtraction (formerly Dark subtraction) is done to eliminate any extraneous light that might compromise useful data. Light from sources other than the designated reference lamp including ambient light, stray reflections or scatter will be accounted for by storing a Background. Other undesired effects such as thermal noise and hot pixels can also be measured and eliminated with a proper background spectrum.

Scope Minus Dark has been renamed to Quick View Minus Background in OceanView. Quick View Minus Background mode is entered using the Quick View Minus Background Wizard to set your acquisition parameters and store a Background spectrum. When the Background spectrum is stored, an Update Background button (Gray Light Bulb) is added to the Graph View to enable Background update as needed.

Tip: Save your Quick View minus Background experiment as a Project and reload it using the Open Project button to quickly enter Quick View minus Background mode.

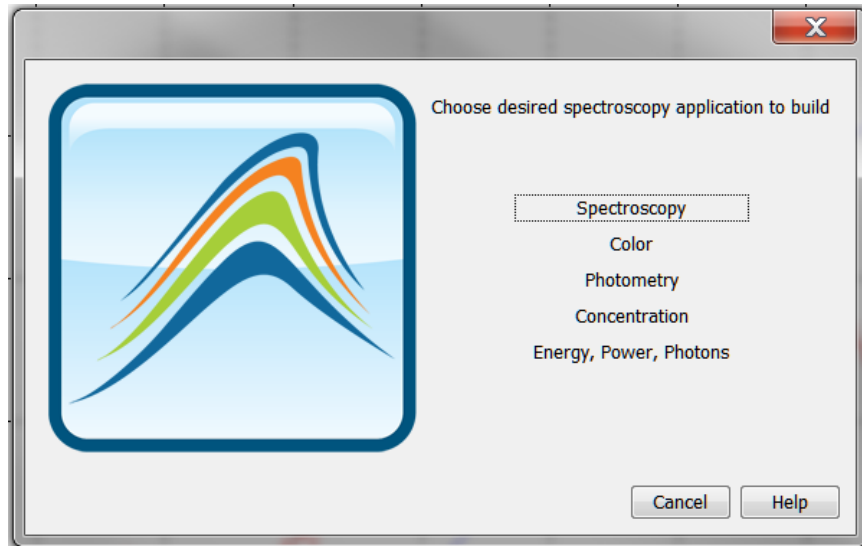
Where did my S, A, T, R and I and light bulb buttons go?

The processed modes available in SpectraSuite by clicking on the A, T, R and I buttons are available in the new software through the Spectroscopy Wizard or by loading a previously saved experiment created for one of these processed modes.

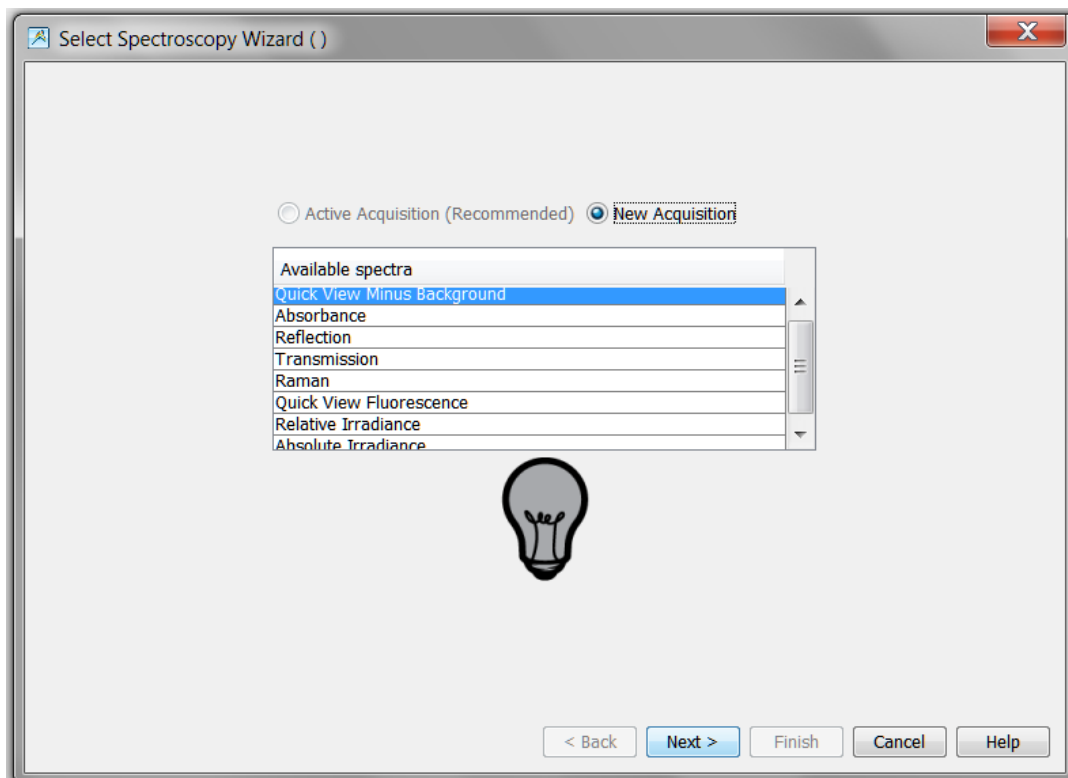
To access the Spectroscopy Wizards, click the Create new spectroscopy application button



or select the Create new spectroscopy application button from the File menu to open the Wizards dialog box.



Click Spectroscopy to open the Select Spectroscopy Wizard dialog box. Select the processed mode you want to enter and Click Next. The Wizard will take you through all the necessary steps to optimize your acquisition and enter the desired processing mode.



Tip: Save your Absorbance, Transmission, Reflection or Irradiance experiment as a Project and reload it using the Open Project button



or by clicking the Open Project button option on the File menu. When you load a project with a Reference and Background buttons will be available in your Graph View for updating the Reference and Background spectra.

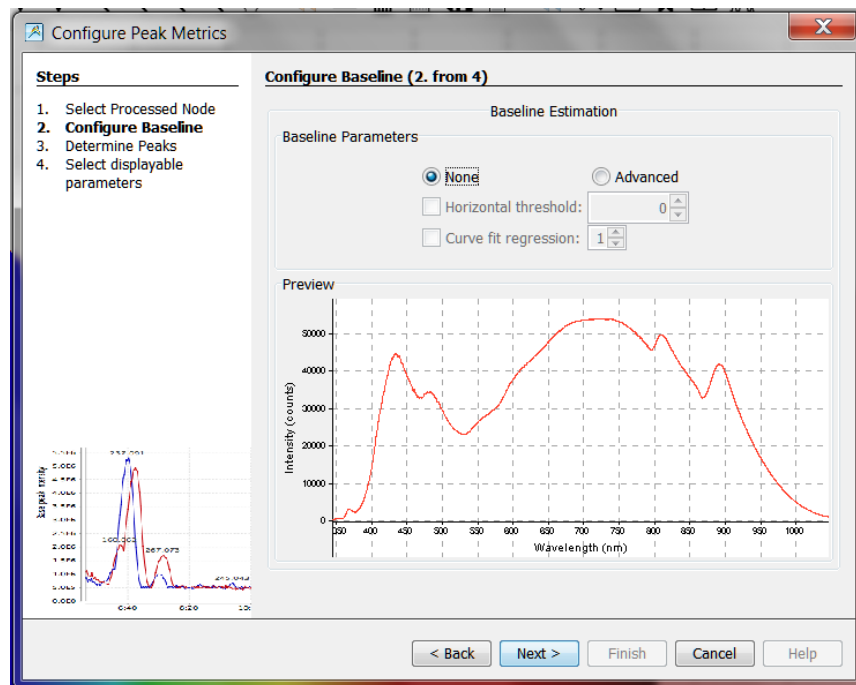


How do I find my Peaks?

Find the peaks in your spectrum by clicking the View Spectrum Peaks button in your Graph View.



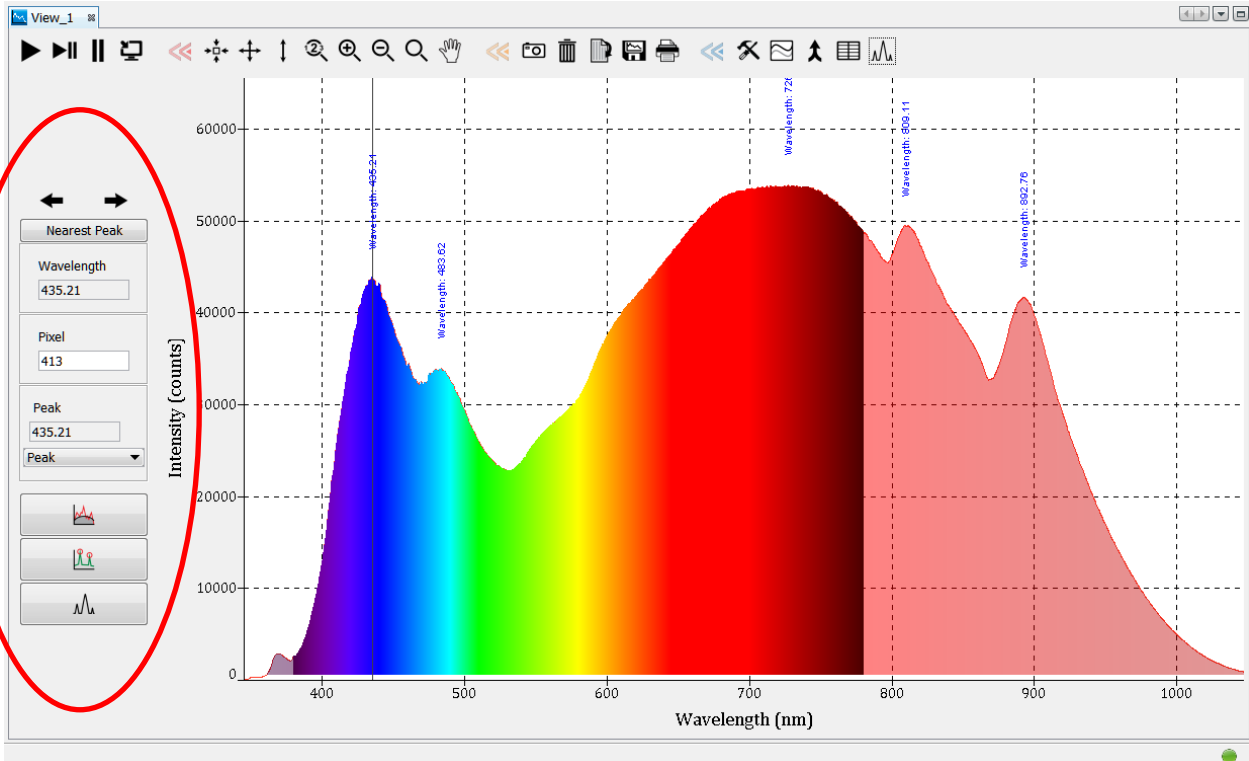
The Configure Peak Metrics wizard takes you through a few quick steps to setup your peak finding parameters.



The steps are:

- Set baseline level
- Choose your peak finding method and set peak finding criteria and optional spatial filtering
- Select which peak parameters to display them on the graph, in a table or both

Make adjustments to peak finding parameters and criteria in the new peak menu that opens.



Close the peak menu and remove peak information from the graph by clicking the View Spectrum Peaks button.



What is the Schematic and how do you use it?

What is the Schematic?

The Schematic View is a window that shows icons representing the different devices and processes in your project as nodes and links between the nodes. In the Schematic, you can view and manipulate the flow of data from your spectrometer through your processing steps.

Data flow is represented by the use of arrows and lines that connect different nodes. The nodes represent points where data is processed or manipulated.

The Schematic provides you all the functionality of the Graph View window, plus the following enhanced capabilities:

- Algorithm nodes – allow for math functions such as ratios, adding multiple spectra, and adding a constant to spectra.
- Set a subrange – ability to focus on a specific subset of the spectrum
- Interpolate spectral data – evenly space data from two or more spectra to analyze them mathematically
- Retrieve device properties such as serial number, firmware version, wavelength and total number of pixels
- Send a single value (such as TEC temperature, integral, average over a specific wavelength range) from the device to the Scalar view to analyze the value over time
- Preview spectra in graphs at every step in your process
- Easily add new Graph and Table Views

Using the Schematic

Spectrometers:

- All spectrometers detected by the software are automatically placed on the Schematic.
- Add new devices to the Schematic using the Device Manager button or clicking F5. Click Rescan to scan and connect to new devices.



- Double-click the spectrometer icon to open the Device Features window and view all available device characteristics (serial number and firmware version).

Acquisitions:

- Start a new acquisition for a spectrometer by right-clicking the spectrometer icon and selecting New Acquisition to choose from the list of available acquisitions.
- Double-click the Acquire node to open the Acquisition Parameter Controls menu and configure the acquisition.

Adding Nodes to the Schematic:

- Add a data view (Graph, Scalar or Table view windows) or processing nodes to the Schematic by right-clicking on an empty region of the Schematic and selecting a node from the menu.
- To connect nodes:
 - For PC users, hold down the Control button and left-click on the first node. While still holding the mouse button, drag a wire from the first node to the second node. When the cursor is over the second node, release the mouse button and the Control button - Control + Click + Drag
 - For Mac users, hold both the Shift button and the Control button while wiring a connection - Control + Shift + Click + Drag
- Double-click a node to view available feature controls and access context sensitive help.
- Delete a connection between node by moving the cursor over the wire, right-clicking on it and selecting “Delete Connection” Right-click the node to Rename, Duplicate or Delete it
- Double-click a View node to go to the Data View window for that node
- If two nodes cannot be connected, OceanView will not allow you to make the connection - view the context sensitive help for the node to determine the proper connection by double clicking the node and clicking the Help button.

Tip: Use the Wizards to create your Schematic and customize as desired using more than 70 algorithm nodes.

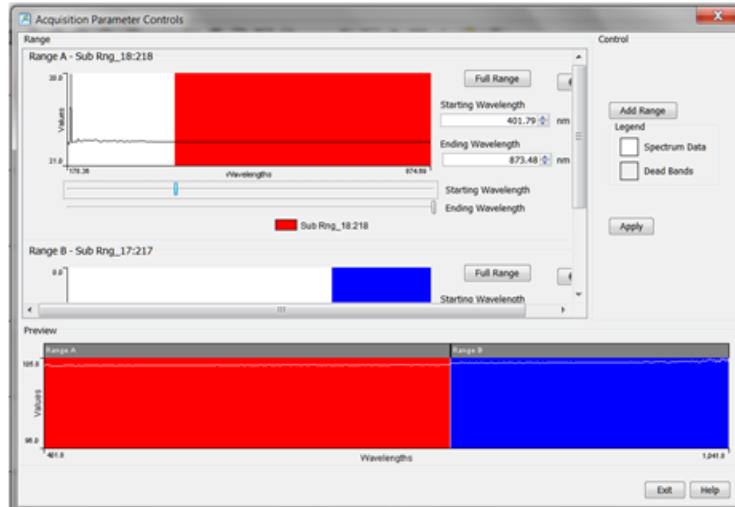
How do I Splice spectral data?

OceanView has a post processing mode that allows you to splice spectral data from multiple spectrometers into a single spectrum. Note that spectral splicing can only be done with processed spectra - Absorbance, Reflection, Transmission, Relative Irradiance or Absolute Irradiance.

Open the Splice Spectra dialog box by clicking the Splice Spectra button in the graph window.



Click the Add Range button to select sources of processed data for the spliced spectrum.



Adjust the spectral ranges for the sources and click Apply to splice the spectra into a single spectrum.

For additional help, click the Help buttons available in most OceanView dialog boxes for extensive context sensitive help. Help is also available by selecting the Help Contents option from the Help menu at top of your software window.