



830 Douglas Ave.
Dunedin, FL 34698
+1 727-733-2447
www.OceanOptics.com

A HALMA COMPANY



Quick Start Instructions

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Description

Ocean Optics has taken Java-based spectroscopy software to the next level with OceanView. This is the next logical step in the evolution of spectrometer software. It provides good stability, persistence of user settings, a broad scope of device features, and allows you to consistently save and load files.

OceanView operates on 32- and 64-bit Windows, Macintosh and Linux operating systems. The software can control any Ocean Optics USB spectrometer.

OceanOptics Contact Information

To speak to a Technical Support representative or an Ocean Optics Applications Scientist, please call (727) 733-2447. Our office hours are 8 a.m.– 6 p.m. (Mon- Fri) ET.

You can access complete documentation for Ocean Optics products on our website at <http://www.oceanoptics.com>. Select Technical | Operating Instructions. Choose the appropriate document from the drop-down lists or use the Search by Model Number field.

OceanView Installation

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

HD Space: 300 MB free space

Note

Most processors produced in 2010 and later work well with OceanView. OceanView does not run on tablets with ARM processors.

Caution

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

Download OceanView from the link you received in your email.

Installation instructions are included below to install OceanView on each of these operating systems:

- Microsoft Windows – XP, Vista, 7, 8, 8.1; 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 10.4 LTS)

Windows Platform Installation

The 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. 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 desktop of the current user.

Device Driver Issues

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

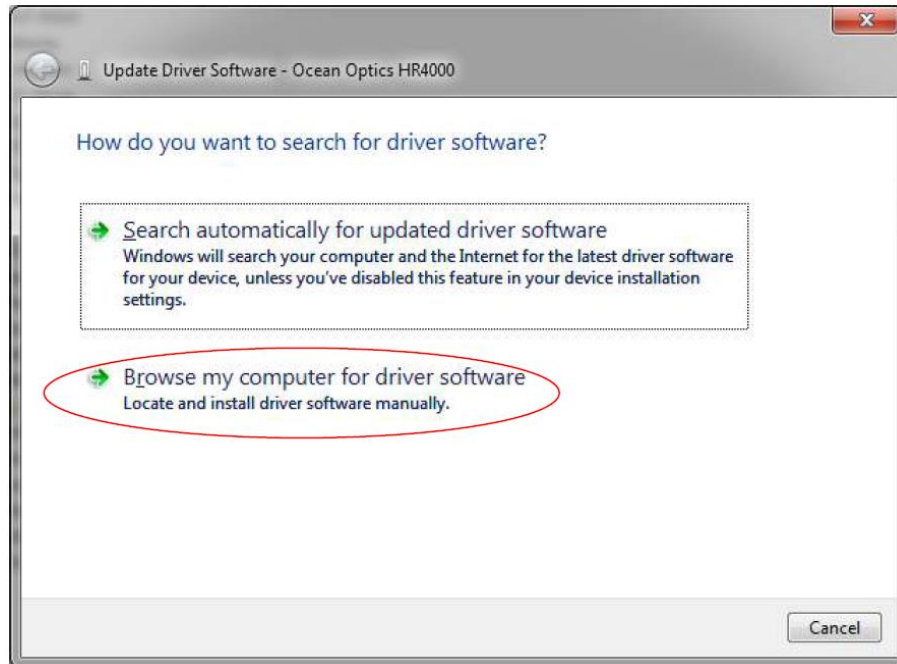
If your spectrometer is not recognized by OceanView running on your computer, you need to manually install the spectrometer drivers using the procedure below.

Windows Driver Installation Process

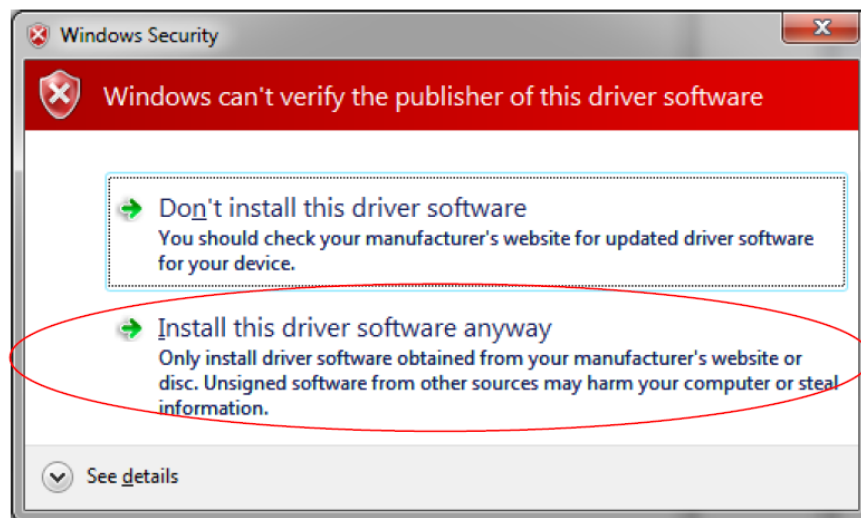
Use this procedure when connecting your spectrometer to a Windows 64-bit system. Steps may vary slightly depending on the version of Windows.

► Procedure

1. Open the Control Panel. Click **Device Manager**.
2. Right-click on the Ocean Optics spectrometer under **Other devices**. Choose **update driver software**. This screen appears:



3. Choose **Browse my computer for driver software**.
4. Navigate to C:\Program Files\Ocean Optics\OceanView\SystemFiles. Click **OK**. Then click **Next**.
5. Choose **Install this driver software anyway** on this screen.



The software will recognize your spectrometer if the driver installation is successful.

Macintosh Platform Installation

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

Note

Newer versions of MacOSX do not ship with Java. 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 are here:

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

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

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

► Procedure

1. Navigate to the link you received to the OceanView software. Download the installer (OceanViewSetup_Mac.dmg).
2. Double-click the OceanViewSetup_Mac.dmg file to mount the disk image. A new OceanView icon that looks like a disk drive appears on your desktop. The new icon should open automatically (if not, double-click it).
3. Drag the OceanView.app icon to the Applications folder icon to install OceanView. Then you can launch OceanView from the Applications folder. Double-click the Applications folder and drag the OceanView icon from Applications to the Dock to be able to launch it faster.
4. Drag the OceanView drive icon to the trash can once the installation has finished.

Linux Platform Installation

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

► Procedure

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

Note

The example below is for a 64 bit installer downloaded to the desktop. Change 64 to 32 and the file location (if needed) for your installation.

2. Start a terminal window. Enter the following commands:

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

The software prompts for your password. This 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 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>)
3. 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. It will be under either Applications or Other in the Application Launcher menu.

Product Activation

License

You can activate your OceanView software conveniently online. Select **Help --> Licensing**. Enter the product key in the **OceanView Licensing** dialog box that you received when you purchased the software.

If you do not have an Internet connection, click **Offline Registration** to display the Product Activation wizard. Use this wizard to save an activation request file and send it to Ocean Optics via an Internet-connected device. Ocean Optics will then reply with your Activation Request file. Use this in Step 3 of the Product Activation wizard.

The **OceanView Licensing** dialog box also allows you to deactivate your software license.

Start Your 10-Day Free Trial

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.


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.

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.

► 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. 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. Then 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.

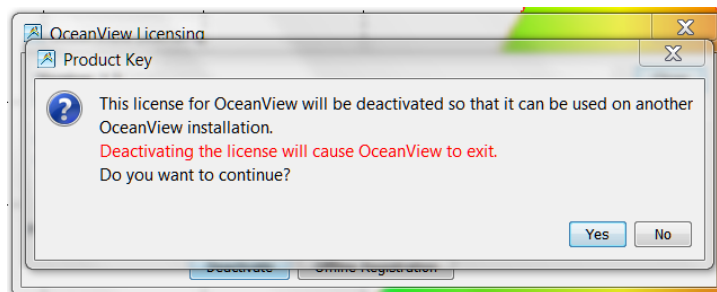
There is a problem with Licensing.
Contact Ocean Optics, Inc. for help.

Deactivate 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 to deactivate your product key on one computer so you can use it on another computer.

► Procedure

1. Go to Help | Licensing.
2. Click **Deactivate**. The following warning will appear:



3. Click **Yes** to deactivate the license. OceanView closes. 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. It asks what you want to do.



Select from the following tasks:

- **Quick View** -- Displays the spectrum in Quick View mode showing raw, unprocessed data. This is uncorrected for instrument response vs. wavelength. Quick View shows you a live shot of what the spectrometer is “seeing.” From Quick View you can construct modes for different techniques.
- **Load a Saved Project** – Loads a previously saved project. Click Restore Last Session to reload the schematic and views as they were when the software was last closed.
- **Spectroscopy Application Wizards** – Use this function to set up a measurement using simple step-by-step wizards. A large range of applications is available.

You can skip this window in the future by unchecking **Show on startup** at the bottom of the screen.

Click **OK** once the selection is made on this window.

Note


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

Run a Wizard



► Procedure

1. Select **Spectroscopy Application Wizards** and click **OK** to open the Wizard selection screen.
2. Select the processed mode. Click **Next**. The wizard shows all the necessary steps to optimize your acquisition and enter the desired processing mode.

You can also access wizards with the **Create a new spectroscopy application** button () and the **File | Create a new spectroscopy application** menu item.

Load a Saved 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 project


► Procedure

1. Select **Load a Saved Project** to view the list of previously saved projects.
2. Select 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 by selecting the **File | Open Project** menu item.

Save projects by clicking the Save project button () or selecting the **File | Save Project** menu item.

Restore Last Session

Select **Restore Last 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

The same spectrometer(s) that were connected when OceanView was last closed must be attached 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 in Ocean Optics' SpectraSuite and OOIBase32 software. This is the raw signal from the detector and is proportional to the voltage induced by the light falling on the detector.

It is very important to realize that this is uncalibrated data and that a counts signal does not represent a particular power or energy from one wavelength to the next. Because the response of the detector is linear, twice the counts at a particular wavelength do indicate that the amount of light at that wavelength has “doubled.” However, a small peak relative to a big peak does not indicate that there is less or more light at a particular wavelength relative to another. To understand the true relationship you need to do a relative measurement (including relative irradiance), or if you want a quantified result, an absolute irradiance measurement.

To display a Quick View spectrum for all the attached devices, do one of the following:

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

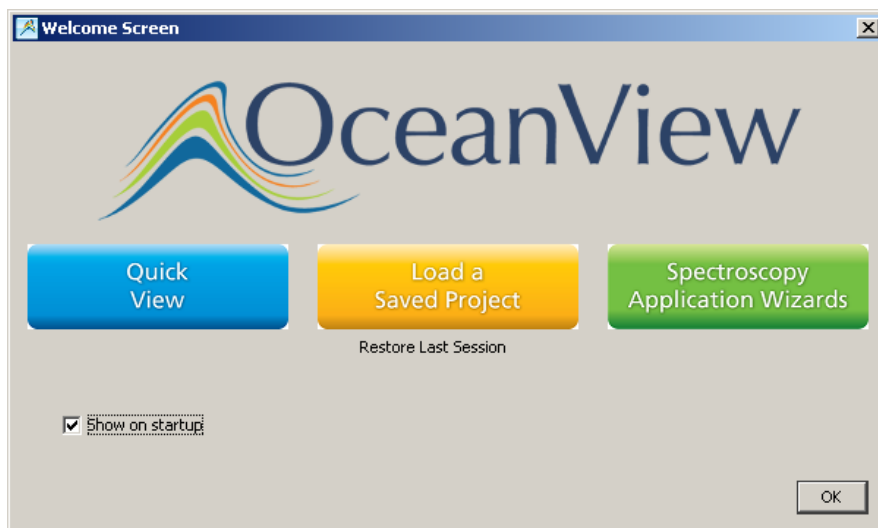
How do I get into Scope mode?

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


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


Tip

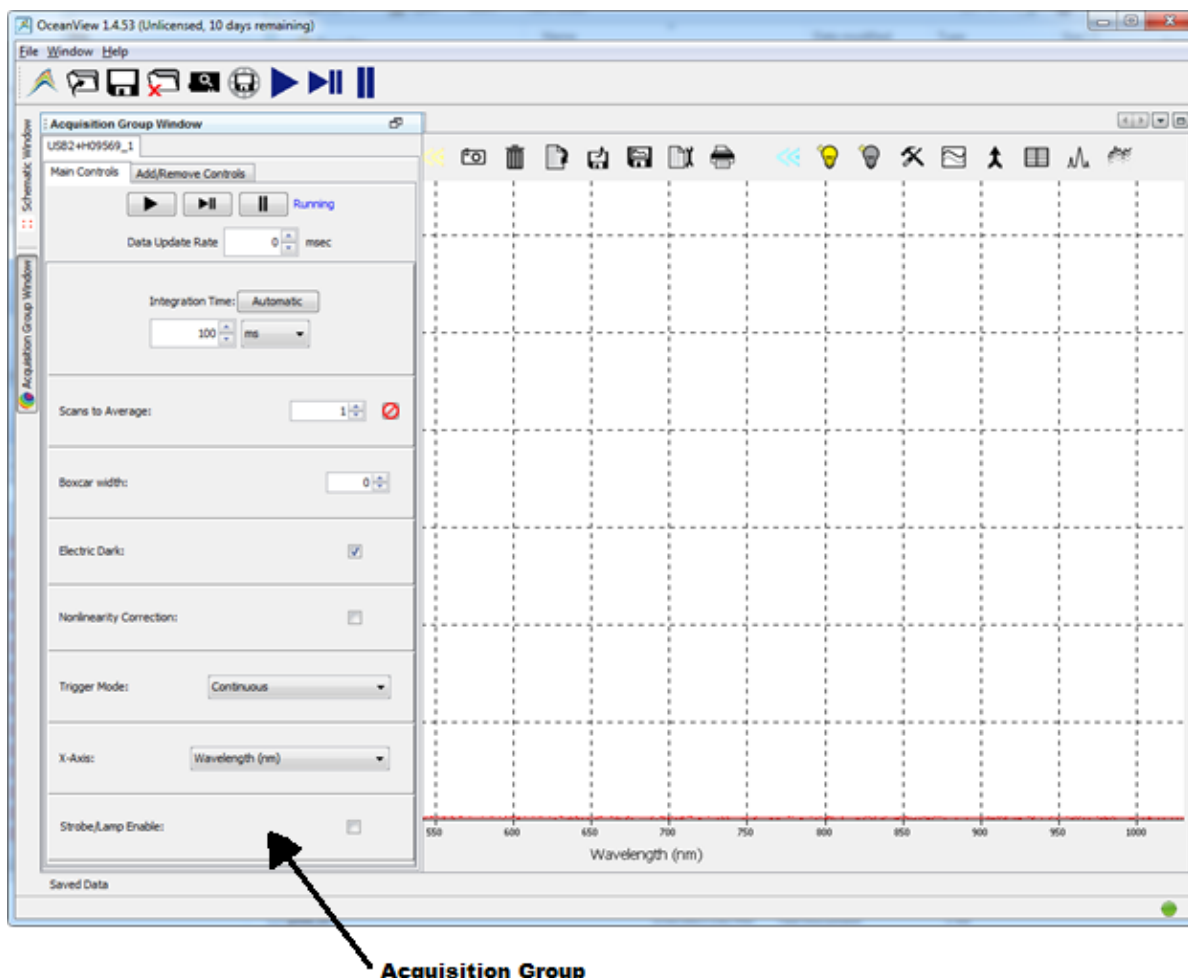
Remove the checkmark from the “Show on startup” option in the Welcome Screen to start the software in Quick View.



Where are my Acquisition Controls?

All of the acquisition controls have been moved to the Acquisition Control Panel. This provides a cleaner, more relevant user interface. It also allows you to select from multiple acquisitions in the Graph View window. Click the Acquisition Controls button (). When you click the Acquisition Controls button in the Graph or Schematic View, the **Main Controls** tab of the Acquisition Parameters Controls opens.

You can also click the Acquisition Controls node () in the Acquisition Control Panel.



Acquisition Group

Note

Different types of acquisitions are available for different devices. These devices include 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 selected.

Click the **Add/Remove Controls** tab. Check the boxes next to the desired feature. This adds additional acquisition controls to the **Main Controls** tab. When the boxes are checked, the controls for these features will show 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 determines 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. It cannot be removed.

Note

Select a control in the **Add/Remove Controls** tab. It appears the **Main Controls** tab. That setting is sent 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. This can result in rapid changes of state (for example, lamp control).

How do I get into Scope – Dark mode?

Background subtraction (formerly Dark subtraction) eliminates any extraneous light that can 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, a Background button (💡) is added to the Graph View to enable a Background update as needed.

Tip



Save your Quick View minus Background experiment as a Project. Reload it with the Open Project button to quickly enter Quick View minus Background mode.

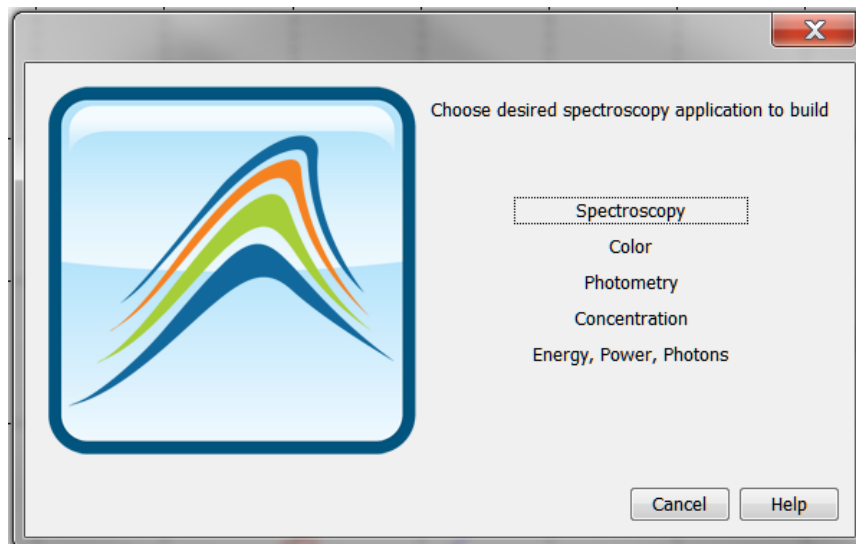
Where did my S, A, T, R and I and light bulb buttons go?

The processed modes available in SpectraSuite with the **A**, **T**, **R** and **I** buttons are available in OceanView through the Spectroscopy Wizard. You can also load a previously saved experiment created for one of these processed modes.

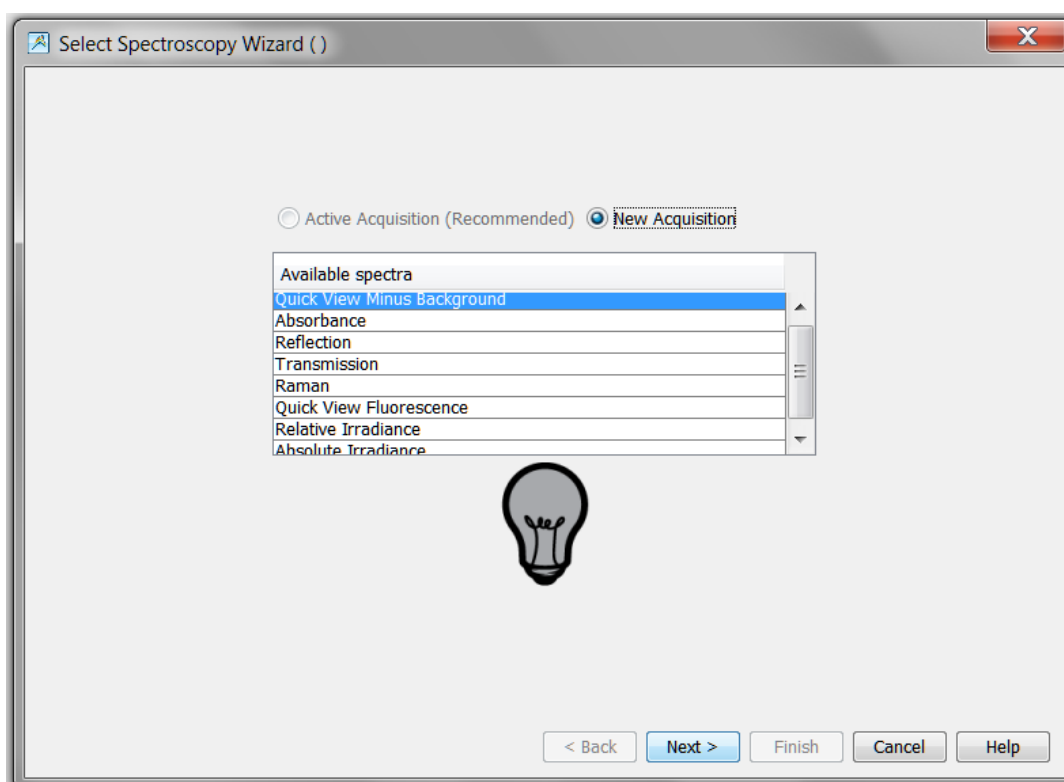
► Procedure

To access the Spectroscopy Wizards,


1. Click the **Create new spectroscopy application** button () or select the **Create new spectroscopy application** button () from the **File** menu. The Wizards dialog box opens.



2. Click **Spectroscopy** to open the Select Spectroscopy Wizard dialog box.
3. Select the processed mode. Click **Next**. The wizard guides you through all the necessary steps to optimize your acquisition and enter the desired processing mode.



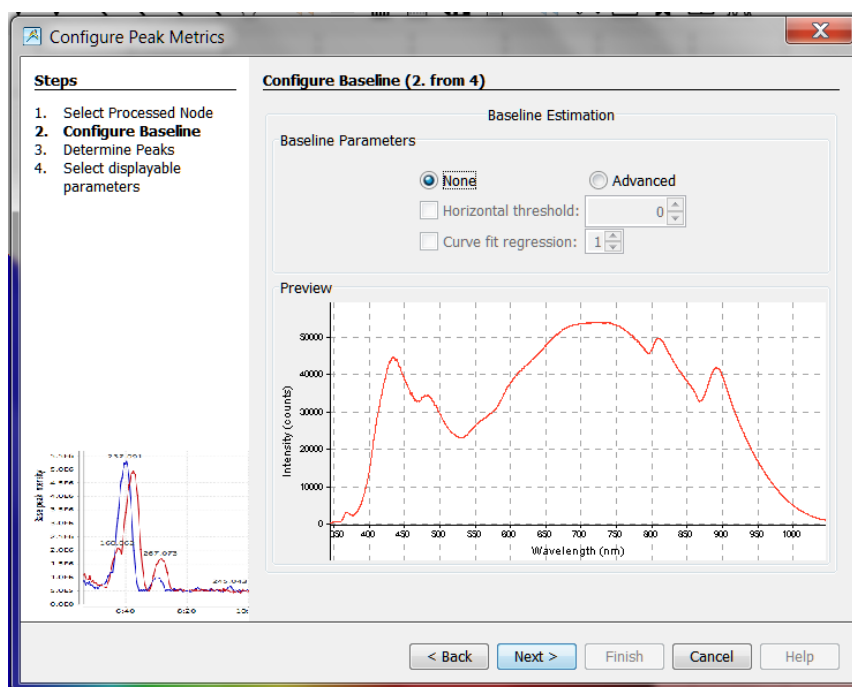
Tip

Save your Absorbance, Transmission, Reflection, or Irradiance experiment as a Project. Reload it with the **Open Project** button  or the **File | Open Project** menu option. When you load a project, Reference (💡) and Background (💡) buttons will be available in your Graph View to update the Reference and Background spectra.

How do I find my Peaks?

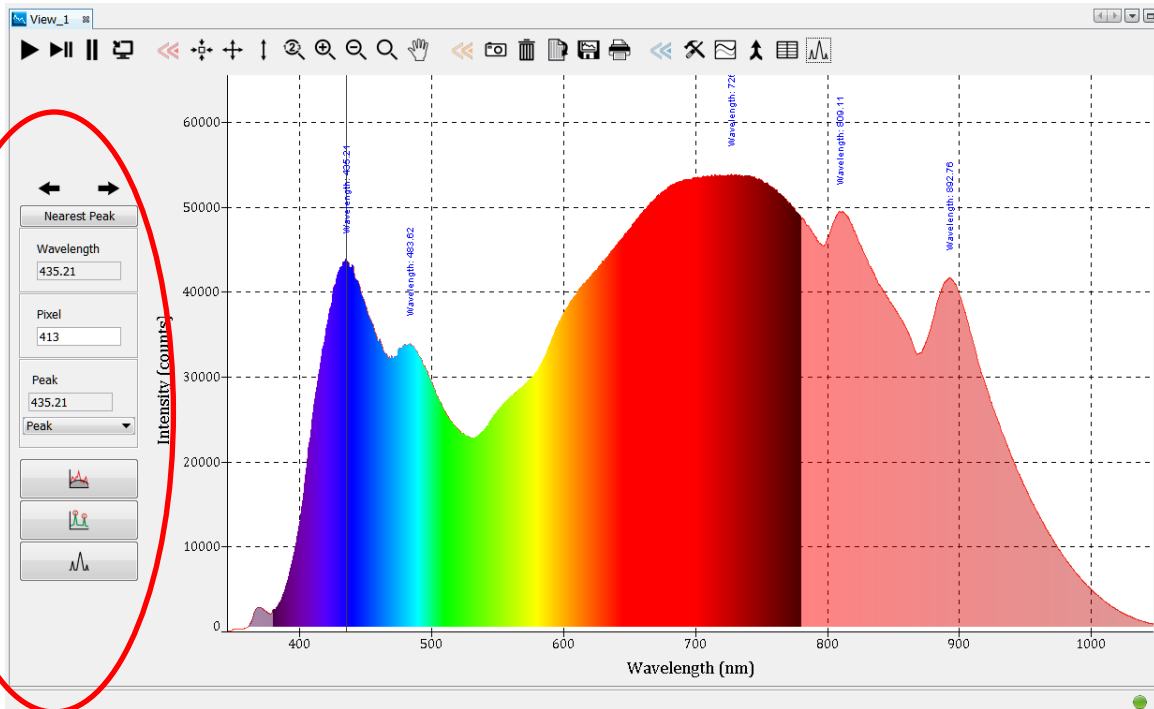
Click the View Spectrum Peaks button () in Graph View to find the peaks in your spectrum.

The Configure Peak Metrics wizard guides you through a few quick steps to set up your peak finding parameters.



► Procedure

1. Set the baseline level.
2. Choose your peak finding method. Set peak finding criteria and optional spatial filtering.
3. Select which peak parameters to display them on the graph, in a table, or both.
4. Make adjustments to peak finding parameters and criteria in the new Peak menu that opens.



5. Close the peak menu.

6. Click the **View Spectrum Peaks** button () to remove peak information from the graph

What is the Schematic View?


The Schematic View 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 arrows and lines that connect different nodes. The nodes represent points where data is processed or manipulated.

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

- Adding Algorithm nodes – allow for math functions such as ratios, adding multiple spectra, and adding a constant to spectra.
- Setting a subrange – ability to focus on a specific subset of the spectrum
- Interpolating spectral data – evenly space data from two or more spectra to analyze them mathematically
- Retrieving device properties such as serial number, firmware version, wavelength and total number of pixels
- Sending 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
- Previewing spectra in graphs at every step in your process
- Easily adding new Graph and Table Views

How do I Use the Schematic View?

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 pressing the F5 key. 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. Right-click the spectrometer icon and select 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. Right-click on an empty region of the Schematic and select a node from the menu.
- To connect nodes:
 - For PC users, hold down the Control key 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 key and the Control key 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. Move the cursor over the wire, right-click on it and select **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. Double-click the node and click the **Help** button.


Tip

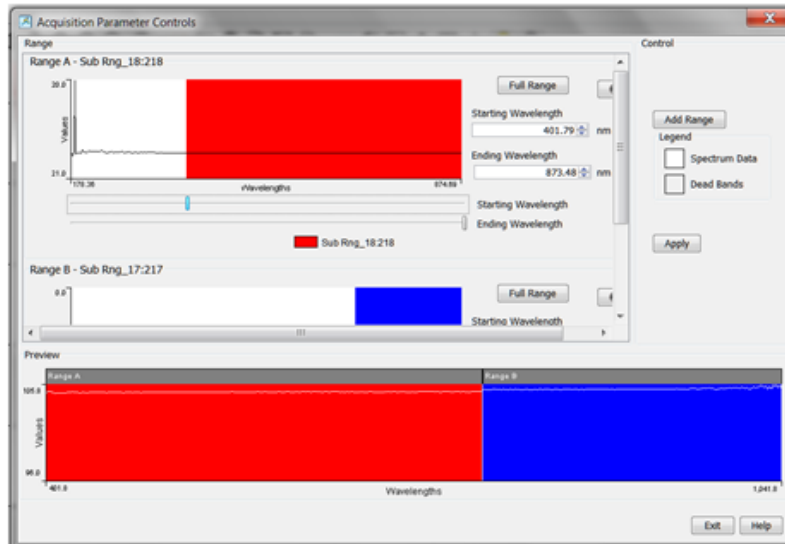
Use the Wizards to create a Schematic and customize it using more than 70 algorithm nodes.

How do I Splice spectral data?

OceanView has a post-processing mode 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.

► Procedure

1. Click the Splice Spectra button () in the Graph View window to open the **Splice Spectra** dialog box.
2. Click the **Add Range** button to select sources of processed data for the spliced spectrum.




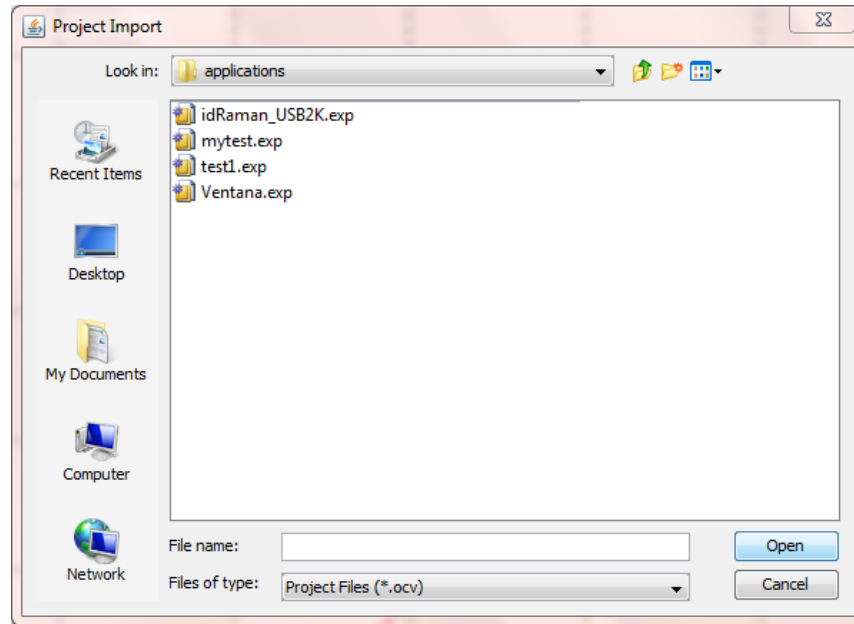
3. Adjust the spectral ranges for the sources.
4. Click Apply to splice the spectra into a single spectrum.

For additional help, click the Help buttons available in most OceanView dialog boxes. Help is also available with the menu item **Help | Help Contents** at top of the software window.

How do I find projects saved in previous versions of OceanView after upgrading to version 1.5.2?

► Procedure

1. Select **File | Open Project**. You can also type the shortcut Ctrl + O or click .
2. Navigate to the Applications directory where OceanView version 1.5.2 (or above) stores projects from previous versions. The full path is C:\Users\<Username>\oceanview\applications.



3. Select the project file (should have the extension .exp) and click **Open** to open your project.

