WET Labs

Getting Started with Compass

Welcome to your new absorption/attenuation (ac) meter and Compass software! Compass host software provides a graphical user interface that allows users to configure, collect, view, and upload data from ac9/acs instruments.

We strongly recommend you read through this guide to get your meter up and running **before** deployment.
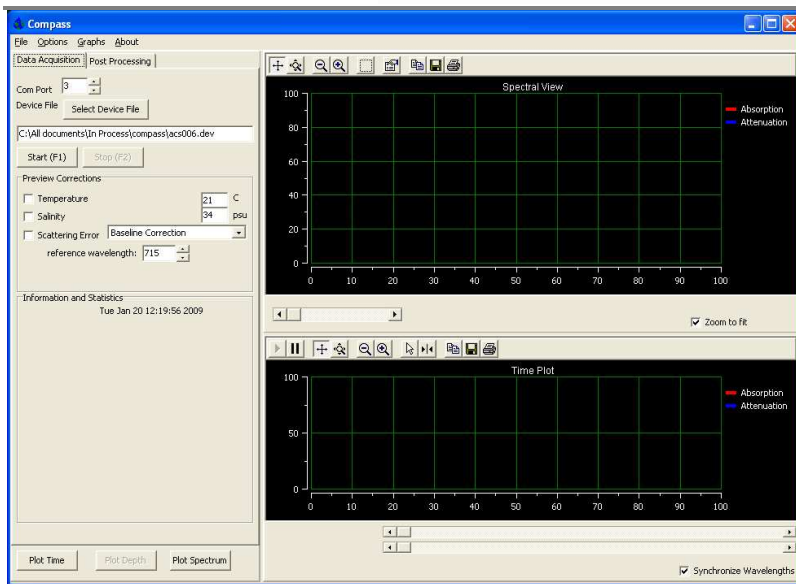
Required Equipment

1. ac meter
2. Factory-supplied test cable
3. Host PC with serial adapter (if using a PC without a serial port/COM port/RS-232)
   o Many new computers and most laptops have no serial port. In this case, you'll need an adapter such as a serial–USB port adapter.
4. Power supply capable of providing 0.8 amps at 12V.
5. PC Factory-shipped CD, containing Compass software, device files, sample output files, and user's guides.

Using Compass to collect, view, save, and process data

To install Compass, select the compass.exe file from either the CD that shipped with your ac meter or from www.wetlabs.com. Copy the file to the location of your choice.

⇨ *Tip*: Copy the ac meter's .dev and .cal files from the supplied CD to a location of your choice on the host computer's hard disk.

1. Connect the meter to its 6-socket test cable
2. Connect the meter's test cable to an appropriate power supply.
3. Connect the test cable's data line to one of the communication ports on your computer.
4. Turn the meter power supply on.
5. Start the program by double-clicking compass.exe. The screen below will appear, displaying a spectral view showing the most recent acquisition, and a time plot, showing the data gathered at specific wavelengths over time.

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Compass

File   Options   Graphs   About

Data Acquisition | Post Processing

Com Port 3
Device File   Select Device File

C:\All documents\In Process\compass\acs006.dev

Start (F1)   Stop (F2)

Preview Corrections

☐ Temperature   21   C
☐ Salinity   34   psu
☐ Scattering Error   Baseline Correction ▼
   reference wavelength: 715

Information and Statistics
Tue Jan 20 12:19:56 2009

Plot Time   Plot Depth   Plot Spectrum

Spectral View

Absorption
Attenuation

☑ Zoom to fit

Time Plot

Absorption
Attenuation

☑ Synchronize Wavelengths

6. Enter a COM port or use the up/down buttons beside it to select the appropriate COM port for meter-PC communication.

7. Click the Select Device File button, and then choose the instrument-specific device file from the CD to load.
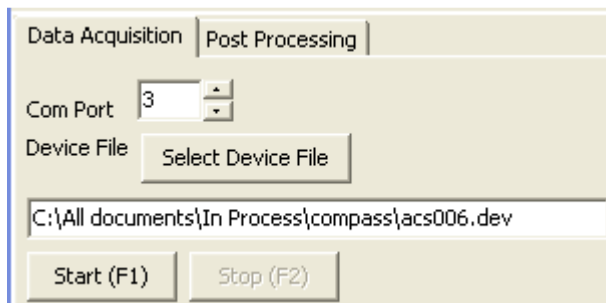
8. Click the Start button (or F1) to start data acquisition. A dialog box prompting you to save the file will appear. A default file name is automatically supplied. It indicates meter type, meter serial number, date, and time. If you do not wish to save the data, click Cancel.

If there are communication issues, a window will pop up with a possible source of the problem. Verify:
- the correct CommPort
- the correct device file
- the meter is properly plugged in and turned on.
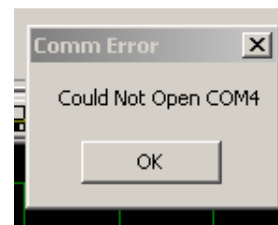
Then click OK and Start again to the get the meter running.

9. Select any corrections you'd like to view. Note that corrections cannot be saved during data acquisition.

   Temperature: Applies a standard temperature correction. This requires the factory calibration temperature, which should be in the dev file. It is also on the meter's data calibration sheet.
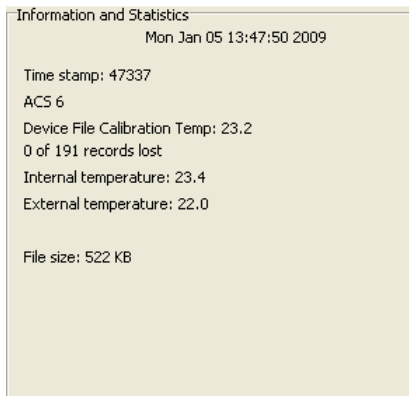
   Salinity: Applies a standard salinity correction.

   Scattering Error: Applies a scattering error correction to the a channel. Either a baseline or a proportional correction are available. Set the reference wavelength in the box below it.
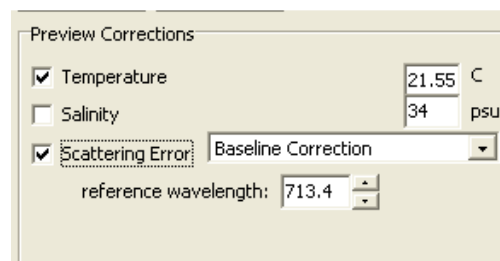
10. View the incoming data.
    - Check the Information and Statistics area to view the meter's real-time status.

Information and Statistics

Mon Jan 05 13:47:50 2009

Time stamp: 47337

ACS 6

Device File Calibration Temp: 23.2

0 of 191 records lost

Internal temperature: 23.4

External temperature: 22.0

File size: 522 KB

- Date and time according to the host computer.
- **Time stamp**: The time in milliseconds since the device has been running, according to the device.
- **Device File Calibration Temp**: The factory calibration temperature, according to the device file.
- **x of n records lost**: Every data record is verified for checksum, consistent serial number and number of wavelengths read. If anything doesn't match correctly, it will be marked as a bad record and noted here. In the case of an ac9, records come in groups of ten, so these both should be multiples of ten.
- **Internal Temperature**: The temperature read from the internal thermistor.
- **External Temperature**: acs only. The temperature from the external thermistor.
- **File Size**: size of processed data file being saved to host PC.

- The top plot is a spectral view of the most recent wavelength. Experiment with changing the corrections and wavelength to see how the plot is affected.
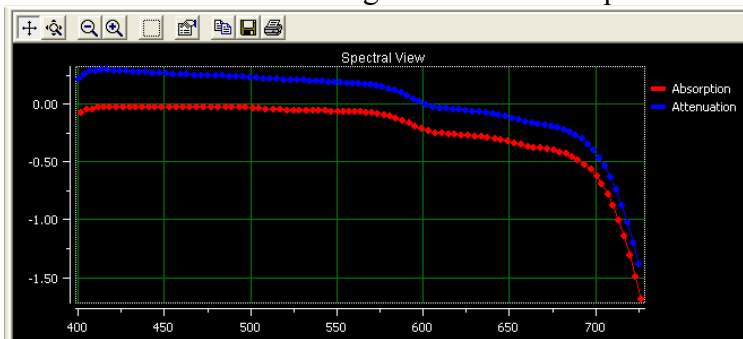
- The bottom plot is a wavelength vs. time plot. Move the sliders to change wavelengths. When Synchronize Wavelengths is checked (default), either a or c can be moved and the other will track. (Note that wavelengths commonly don't match on acs meters).

11. Allow the meter to run a minute or two. When you click Stop (F2), the file is saved with the filename previously specified. If you clicked Cancel at the Save pop-up box, the file is not saved.

Revision History

Revision	Date	Revision Description	Originator
A	1/20/09	New document (DCR 643)	J. Bell