S B E

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Entering Calibration Coefficients for the Seapoint *Ultraviolet* Fluorometer

The Seapoint ultraviolet fluorometer is used for in situ measurements of chromophoric dissolved organic matter (CDOM). This fluorometer uses modulated ultraviolet LED lamps and excitation filter to excite CDOM present in water. The fluorescent light emitted by the CDOM passes through a blue emission filter and is detected by a silicon photodiode. The low level signal is then processed, generating an output voltage proportional to CDOM concentration.

Sensitivity of this fluorometer is determined by two control lines that allow the user to change the range and sensitivity as required for a particular application. Jumper cables may be purchased from Sea-Bird to allow the sensor range to be changed by inserting the jumper cable in line with the original cable purchased.

Gain	Sensitivity [V / (µg/l)]	Range [µg/l]
30X	0.1	50
10X	0.033	150
3X	0.01	500
1X	0.0033	1500

Setting Up Configuration (.con or .xmlcon) File in Seasave or SBE Data Processing

1. Use the Configure Inputs menu in Seasave V7 (real-time data acquisition software), or the Configure menu in SBE Data Processing (post-processing software), to create / modify the .con or .xmlcon file (see software Help files).

2. Select *Fluorometer - Seapoint Ultraviolet* as a voltage sensor when editing the configuration file (the Seapoint Ultraviolet fluorometer was added to the list of voltage sensors in software version 7.20g; earlier versions do not list it). The software prompts for Range and Offset, and calculates:
   Value (µg/l) = (Voltage * Range / 5) + Offset

Notes:
- The configuration file can only be saved as an .xmlcon file (not a .con file) if Seapoint Ultraviolet fluorometer is selected as one of the sensors.
- The fluorometer is adjusted at the factory for a nominal range and sensitivity for a given gain setting. Factors such as fouling, scratches, or lamp degradation reduce the sensor sensitivity and/or create the need for an offset to account for discrepancies in the equation. When greater accuracy is desired, calibrate the sensor prior to deployment. Consult the fluorometer operating manual or Seapoint (http://www.seapoint.com) for maintenance and calibration procedures.

Application Note Revision History

Date	Description
May 2005	Initial release.
May 2007	Incorporate Seasave V7.
February 2010	• Change Seasoft-Win32 to Seasoft V2. • Add information on .xmlcon configuration file. • Update Sea-Bird address.
August 2010	SBE Data Processing and Seasave 7.20g software revision: Seapoint Ultraviolet Fluorometer added to list of fluorometers (previously needed to select User Polynomial for this sensor).