



Sea-Bird Electronics, Inc.
 1808 136th Place NE
 Bellevue, WA 98005
 USA

Phone: (425) 643-9866
 Fax: (425) 643-9954
 E-mail: seabird@seabird.com
 Web: www.seabird.com

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Entering Calibration Coefficients for the Seapoint Fluorometer

The Seapoint fluorometer is used for in situ measurements of chlorophyll a. Chlorophyll a in the sensing volume is excited using a blue light and fluoresces red light that passes through the detector window. The sensing volume is defined as the intersection of the lamp beams and the detectors cone of reception, allowing the fluorometer to be used with or without a pump. When used without a pump, the end plate of the instrument prevents ambient light from reaching the detector.

Sensitivity of the Seapoint 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.

<u>GAIN</u>	<u>SENSITIVITY</u>	<u>RANGE</u>
30X	1.0 V/(µg/l)	5 µg/l
10X	0.33 V/(µg/l)	15 µg/l
3X	0.1 V/(µg/l)	50 µg/l
1X	0.033 V/(µg/l)	150 µg/l

The DOS version of our software package and Windows versions of SEASAVE prior to V1.10 do not support the Seapoint fluorometer. However, using the Sea Tech fluorometer will allow the user to obtain fluorescence readings. Simply enter the range of the Seapoint fluorometer in place of the scale factor, with an offset of zero.

For Windows versions of the software (SEASAVE V1.10 and greater, and all versions of SBE Data Processing), the software prompts for serial number, calibration date, gain setting and range, and offset when the Seapoint fluorometer is selected when setting up the configuration (.con) file.

$$\text{Output } (\mu\text{g/l}) = (\text{Voltage} * \text{Range} / 5) + \text{Offset}$$

Note: The CTD configuration (.con) file is edited using the Configure menu (in SEASAVE or SBE Data Processing in our SEASOFT-Win32 suite of programs) or SEACON (in SEASOFT-DOS).

The fluorometer is adjusted at the factory for a nominal range and sensitivity for a given gain setting. For instances when greater accuracy is desired, the sensor should be calibrated prior to deployment. Factors such as fouling, scratches, or lamp degradation will reduce the sensitivity of the sensor. In cases when the sensor is calibrated, the user can enter an *offset* to correct for any discrepancies in the equation. Consult the fluorometer operating manual or Seapoint Sensors, Inc. for maintenance and calibration procedures.