

## EN620 representative header file

```
* Sea-Bird SBE 9 Data File:
* FileName = D:\ctd\raw\620_005_17.hdr
* Software Version Seasave V 7.26.7.107
* Temperature SN = 2902
* Conductivity SN = 2469
* Number of Bytes Per Scan = 40
* Number of Voltage Words = 5
* Number of Scans Averaged by the Deck Unit = 1
* System Upload Time = Aug 22 2018 19:11:08
* NMEA Latitude = 27 52.38 N
* NMEA Longitude = 088 26.91 W
* NMEA UTC (Time) = Aug 22 2018 19:11:07
* Store Lat/Lon Data = Append to Every Scan
* SBE 11plus V 5.2
* number of scans to average = 1
* pressure baud rate = 9600
* NMEA baud rate = 4800
* surface PAR voltage added to scan
* A/D offset = 2
* Latitude/Longitude added to scan
* GPIB address = 1
* advance primary conductivity 0.073 seconds
* autorun on power up is disabled
* S>
** Ship: R/V Endeavor
** Cruise: EN620
** Chief Scientist: Joseph Montoya
** P-side of lo N:P
** Dates: 19 August to 02 Sept 2018
** Gulfport, Mississippi to Gulfport, Mississippi
** Station: 005.17
** Bottom Depth: 2306
** Operator: ant
** 005.17: combination exp/biomass cast near trap
* System UTC = Aug 22 2018 19:11:08
# interval = seconds: 0.0416667
# start_time = Aug 22 2018 19:11:08 [System UTC, header]
# <Sensors count="15" >
# <sensor Channel="1" >
# <!-- Frequency 0, Temperature -->
# <TemperatureSensor SensorID="55" >
```

```
# <SerialNumber>2902</SerialNumber>
# <CalibrationDate>11-Jan-18</CalibrationDate>
# <UseG_J>1</UseG_J>
# <A>0.00000000e+000</A>
# <B>0.00000000e+000</B>
# <C>0.00000000e+000</C>
# <D>0.00000000e+000</D>
# <F0_Old>0.000</F0_Old>
# <G>4.34453264e-003</G>
# <H>6.44771066e-004</H>
# <I>2.29206220e-005</I>
# <J>2.13330570e-006</J>
# <F0>1000.000</F0>
# <Slope>1.00000000</Slope>
# <Offset>0.0000</Offset>
# </TemperatureSensor>
# </sensor>
# <sensor Channel="2" >
# <!-- Frequency 1, Conductivity -->
# <ConductivitySensor SensorID="3" >
# <SerialNumber>2469</SerialNumber>
# <CalibrationDate>12-Jan-18</CalibrationDate>
# <UseG_J>1</UseG_J>
# <!-- Cell const and series R are applicable only for wide range sensors. -->
# <SeriesR>0.0000</SeriesR>
# <CellConst>2000.0000</CellConst>
# <ConductivityType>0</ConductivityType>
# <Coefficients equation="0" >
# <A>0.00000000e+000</A>
# <B>0.00000000e+000</B>
# <C>0.00000000e+000</C>
# <D>0.00000000e+000</D>
# <M>0.0</M>
# <CPcor>-9.57000000e-008</CPcor>
# </Coefficients>
# <Coefficients equation="1" >
# <G>-9.83496168e+000</G>
# <H>1.37102844e+000</H>
# <I>-2.42649815e-003</I>
# <J>2.40267625e-004</J>
# <CPcor>-9.57000000e-008</CPcor>
# <CTcor>3.2500e-006</CTcor>
# <!-- WBOTC not applicable unless ConductivityType = 1. -->
```

```
# <WBOTC>0.00000000e+000</WBOTC>
# </Coefficients>
# <Slope>1.00000000</Slope>
# <Offset>0.00000</Offset>
# </ConductivitySensor>
# </sensor>
# <sensor Channel="3" >
# <!-- Frequency 2, Pressure, Digiquartz with TC -->
# <PressureSensor SensorID="45" >
# <SerialNumber>0444</SerialNumber>
# <CalibrationDate>20-Dec-16</CalibrationDate>
# <C1>-5.378517e+004</C1>
# <C2>-3.498580e-001</C2>
# <C3>1.648580e-002</C3>
# <D1>4.036100e-002</D1>
# <D2>0.000000e+000</D2>
# <T1>2.984744e+001</T1>
# <T2>-3.538190e-004</T2>
# <T3>3.972770e-006</T3>
# <T4>2.922330e-009</T4>
# <Slope>0.99989692</Slope>
# <Offset>-0.45761</Offset>
# <T5>0.000000e+000</T5>
# <AD590M>1.125800e-002</AD590M>
# <AD590B>-8.763490e+000</AD590B>
# </PressureSensor>
# </sensor>
# <sensor Channel="4" >
# <!-- Frequency 3, Temperature, 2 -->
# <TemperatureSensor SensorID="55" >
# <SerialNumber>2034</SerialNumber>
# <CalibrationDate>11-Jan-18</CalibrationDate>
# <UseG_J>1</UseG_J>
# <A>0.00000000e+000</A>
# <B>0.00000000e+000</B>
# <C>0.00000000e+000</C>
# <D>0.00000000e+000</D>
# <F0_Old>0.000</F0_Old>
# <G>4.41224800e-003</G>
# <H>6.40810109e-004</H>
# <I>2.34620587e-005</I>
# <J>2.22067977e-006</J>
# <F0>1000.000</F0>
```

```
# <Slope>1.0000000</Slope>
# <Offset>0.0000</Offset>
# </TemperatureSensor>
# </sensor>
# <sensor Channel="5" >
# <!-- Frequency 4, Conductivity, 2 -->
# <ConductivitySensor SensorID="3" >
# <SerialNumber>2459</SerialNumber>
# <CalibrationDate>12-Jan-18</CalibrationDate>
# <UseG_J>1</UseG_J>
# <!-- Cell const and series R are applicable only for wide range sensors. -->
# <SeriesR>0.0000</SeriesR>
# <CellConst>2000.0000</CellConst>
# <ConductivityType>0</ConductivityType>
# <Coefficients equation="0" >
# <A>0.00000000e+000</A>
# <B>0.00000000e+000</B>
# <C>0.00000000e+000</C>
# <D>0.00000000e+000</D>
# <M>0.0</M>
# <CPcor>-9.57000000e-008</CPcor>
# </Coefficients>
# <Coefficients equation="1" >
# <G>-1.02361744e+001</G>
# <H>1.50895334e+000</H>
# <I>-1.82498446e-004</I>
# <J>9.47468425e-005</J>
# <CPcor>-9.57000000e-008</CPcor>
# <CTcor>3.2500e-006</CTcor>
# <!-- WBOTC not applicable unless ConductivityType = 1. -->
# <WBOTC>0.00000000e+000</WBOTC>
# </Coefficients>
# <Slope>1.00000000</Slope>
# <Offset>0.00000</Offset>
# </ConductivitySensor>
# </sensor>
# <sensor Channel="6" >
# <!-- A/D voltage 0, Transmissometer, WET Labs C-Star -->
# <WET_LabsCStar SensorID="71" >
# <SerialNumber>593DR</SerialNumber>
# <CalibrationDate>07-Mar-18/#-Mar-18field</CalibrationDate>
# <M>19.2160</M>
# <B>-1.1145</B>
```

```
# <PathLength>0.250</PathLength>
# </WET_LabsCStar>
# </sensor>
# <sensor Channel="7" >
# <!-- A/D voltage 1, Fluorometer, WET Labs ECO-AFL/FL -->
# <FluoroWetlabECO_AFL_FL_Sensor SensorID="20" >
# <SerialNumber>478</SerialNumber>
# <CalibrationDate>02-Mar-18</CalibrationDate>
# <ScaleFactor>2.60000000e+001</ScaleFactor>
# <!-- Dark output -->
# <Vblank>0.0200</Vblank>
# </FluoroWetlabECO_AFL_FL_Sensor>
# </sensor>
# <sensor Channel="8" >
# <!-- A/D voltage 2, Altimeter -->
# <AltimeterSensor SensorID="0" >
# <SerialNumber>49898</SerialNumber>
# <CalibrationDate>30-Mar-15</CalibrationDate>
# <ScaleFactor>15.000</ScaleFactor>
# <Offset>0.000</Offset>
# </AltimeterSensor>
# </sensor>
# <sensor Channel="9" >
# <!-- A/D voltage 3, PAR/Irradiance, Biospherical/Licor -->
# <PAR_BiosphericalLicorChelseaSensor SensorID="42" >
# <SerialNumber>70513</SerialNumber>
# <CalibrationDate>07-Feb-2018</CalibrationDate>
# <M>1.00000000</M>
# <B>0.00000000</B>
# <CalibrationConstant>11037527594.00000000</CalibrationConstant>
# <ConversionUnits>1</ConversionUnits>
# <Multiplier>1.00000000</Multiplier>
# <Offset>-0.09188153</Offset>
# </PAR_BiosphericalLicorChelseaSensor>
# </sensor>
# <sensor Channel="10" >
# <!-- A/D voltage 4, Oxygen, SBE 43 -->
# <OxygenSensor SensorID="38" >
# <SerialNumber>1230</SerialNumber>
# <CalibrationDate>30-Jan-18</CalibrationDate>
# <Use2007Equation>1</Use2007Equation>
# <CalibrationCoefficients equation="0" >
# <!-- Coefficients for Owens-Millard equation. -->
```

```
# <Boc>0.0000</Boc>
# <Soc>0.0000e+000</Soc>
# <offset>0.0000</offset>
# <Pcor>0.00e+000</Pcor>
# <Tcor>0.0000</Tcor>
# <Tau>0.0</Tau>
# </CalibrationCoefficients>
# <CalibrationCoefficients equation="1" >
# <!-- Coefficients for Sea-Bird equation - SBE calibration in 2007 and later. -->
# <Soc>5.1286e-001</Soc>
# <offset>-0.5107</offset>
# <A>-4.3596e-003</A>
# <B> 1.9485e-004</B>
# <C>-2.7044e-006</C>
# <D0> 2.5826e+000</D0>
# <D1> 1.92634e-004</D1>
# <D2>-4.64803e-002</D2>
# <E> 3.6000e-002</E>
# <Tau20> 1.4000</Tau20>
# <H1>-3.3000e-002</H1>
# <H2> 5.0000e+003</H2>
# <H3> 1.4500e+003</H3>
# </CalibrationCoefficients>
# </OxygenSensor>
# </sensor>
# <sensor Channel="11" >
# <!-- A/D voltage 5, Oxygen, SBE 43, 2 -->
# <OxygenSensor SensorID="38" >
# <SerialNumber>0343</SerialNumber>
# <CalibrationDate>09-Mar-18</CalibrationDate>
# <Use2007Equation>1</Use2007Equation>
# <CalibrationCoefficients equation="0" >
# <!-- Coefficients for Owens-Millard equation. -->
# <Boc>0.0000</Boc>
# <Soc>0.0000e+000</Soc>
# <offset>0.0000</offset>
# <Pcor>0.00e+000</Pcor>
# <Tcor>0.0000</Tcor>
# <Tau>0.0</Tau>
# </CalibrationCoefficients>
# <CalibrationCoefficients equation="1" >
# <!-- Coefficients for Sea-Bird equation - SBE calibration in 2007 and later. -->
# <Soc>5.3925e-001</Soc>
```

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# <offset>-0.5261</offset>
# <A>-3.9479e-003</A>
# <B> 1.6669e-004</B>
# <C>-2.6925e-006</C>
# <D0> 2.5826e+000</D0>
# <D1> 1.92634e-004</D1>
# <D2>-4.64803e-002</D2>
# <E> 3.6000e-002</E>
# <Tau20> 1.3600</Tau20>
# <H1>-3.3000e-002</H1>
# <H2> 5.0000e+003</H2>
# <H3> 1.4500e+003</H3>
# </CalibrationCoefficients>
# </OxygenSensor>
# </sensor>
# <sensor Channel="12" >
# <!-- A/D voltage 6, User Polynomial -->
# <UserPolynomialSensor SensorID="61" >
# <SerialNumber>783</SerialNumber>
# <CalibrationDate>28-Jul-2016</CalibrationDate>
# <SensorName>SUNA</SensorName>
# <A0>-6.80600000</A0>
# <A1>24.79800000</A1>
# <A2>0.00000000</A2>
# <A3>0.00000000</A3>
# </UserPolynomialSensor>
# </sensor>
# <sensor Channel="13" >
# <!-- A/D voltage 7, Free -->
# </sensor>
# <sensor Channel="14" >
# <!-- SPAR voltage, Unavailable -->
# </sensor>
# <sensor Channel="15" >
# <!-- SPAR voltage, SPAR, Biospherical/Licor -->
# <SPAR_Sensor SensorID="51" >
# <SerialNumber>20190</SerialNumber>
# <CalibrationDate>07-Feb-2018</CalibrationDate>
# <ConversionUnits>1</ConversionUnits>
# <ConversionFactor>1.5487e+003</ConversionFactor>
# <RatioMultiplier>1.00000000</RatioMultiplier>
# </SPAR_Sensor>
# </sensor>
```

```
# </Sensors>
# datcnv_date = Aug 22 2018 19:56:32, 7.26.7.114
# datcnv_in = D:\CTD\raw\620_005_17.hex D:\CTD\raw\620_005_17.XMLCON
# datcnv_ox_hysteresis_correction = yes
# datcnv_bottle_scan_range_source = scans marked with bottle confirm bit, 0, 2
# datcnv_scans_per_bottle = 49
# bottlesum_date = Aug 22 2018 19:56:55, 7.26.7.114
# bottlesum_in = D:\CTD\proc\620_005_17.ros D:\CTD\proc\620_005_17.XMLCON
# bottlesum_ox_tau_correction = yes
```