

# SEA-BIRD ELECTRONICS, INC.

1808 136th Place N.E., Bellevue, Washington, 98005 USA  
 Phone: (425) 643 - 9866 Fax (425) 643 - 9954 Email: seabird@seabird.com

SENSOR SERIAL NUMBER: 1609  
 CALIBRATION DATE: 14-Aug-07

SBE3 TEMPERATURE CALIBRATION DATA  
 IPTS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.86553679e-003  
 h = 6.79290062e-004  
 i = 2.59011077e-005  
 j = 1.97582156e-006  
 f0 = 1000.0

## ITS-68 COEFFICIENTS

a = 3.68121041e-003  
 b = 6.03702286e-004  
 c = 1.49255747e-005  
 d = 1.97725141e-006  
 f0 = 6399.780

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	6399.780	-1.4999	0.00014
1.0000	6766.291	0.9999	-0.00012
4.5000	7304.452	4.4998	-0.00017
8.0000	7872.528	7.9999	-0.00008
11.5000	8471.297	11.5002	0.00015
15.0000	9101.510	15.0005	0.00050
18.5000	9763.656	18.4997	-0.00030
22.0000	10458.814	21.9998	-0.00022
25.5000	11187.525	25.5000	-0.00003
29.0000	11950.404	29.0001	0.00012
32.5000	12748.019	32.5000	0.00000

Temperature ITS-90 =  $1/\{g + h[\ln(f_0/f)] + i[\ln^2(f_0/f)] + j[\ln^3(f_0/f)]\} - 273.15$  (°C)

Temperature IPTS-68 =  $1/\{a + b[\ln(f_0/f)] + c[\ln^2(f_0/f)] + d[\ln^3(f_0/f)]\} - 273.15$  (°C)

Following the recommendation of JPOTS:  $T_{68}$  is assumed to be  $1.00024 * T_{90}$  (-2 to 35 °C)

Residual = instrument temperature - bath temperature

