

# 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: 1364  
CALIBRATION DATE: 16-Nov-06

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.84791955e-003  
h = 6.77870311e-004  
i = 2.49050026e-005  
j = 1.80698830e-006  
f0 = 1000.0

## ITS-68 COEFFICIENTS

a = 3.68121132e-003  
b = 6.05091380e-004  
c = 1.50252607e-005  
d = 1.80840578e-006  
f0 = 6218.866

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	6218.866	-1.4999	0.00007
1.0000	6574.202	1.0000	-0.00001
4.5000	7095.839	4.4999	-0.00013
8.0000	7646.383	7.9999	-0.00015
11.5000	8226.612	11.5001	0.00006
15.0000	8837.238	15.0004	0.00037
18.5000	9478.837	18.5000	0.00004
22.0000	10152.202	21.9997	-0.00028
25.5000	10858.107	25.5000	-0.00005
29.0000	11597.042	29.0000	-0.00000
32.5000	12369.660	32.5001	0.00007

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

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

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

Residual = instrument temperature - bath temperature

