

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 1371  
CALIBRATION DATE: 04-Jul-06

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.83378643e-003  
h = 6.78461323e-004  
i = 2.66011745e-005  
j = 2.09340750e-006  
f0 = 1000.0

## ITS-68 COEFFICIENTS

a = 3.68121335e-003  
b = 6.02921467e-004  
c = 1.52687073e-005  
d = 2.09487670e-006  
f0 = 6103.332

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5001	6103.332	-1.5001	0.00002
0.9999	6453.373	0.9999	-0.00003
4.4999	6967.410	4.4999	-0.00001
7.9999	7510.100	7.9999	-0.00000
11.4999	8082.197	11.4999	0.00000
14.9999	8684.431	14.9999	0.00003
18.4999	9317.496	18.4999	0.00002
22.0000	9982.086	21.9999	-0.00005
25.4999	10678.833	25.4999	0.00001
28.9999	11408.379	28.9999	-0.00001
32.4999	12171.332	32.4999	0.00001

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 ITS-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

