

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 1049  
CALIBRATION DATE: 03-Sep-04

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.84732432e-003  
h = 6.77691820e-004  
i = 2.71619738e-005  
j = 2.20100958e-006  
f0 = 1000.0

## ITS-68 COEFFICIENTS

a = 3.68121298e-003  
b = 6.00366213e-004  
c = 1.50680410e-005  
d = 2.20247263e-006  
f0 = 6269.441

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	6269.441	-1.5000	-0.00005
1.0000	6630.607	1.0001	0.00008
4.5001	7161.080	4.5001	0.00001
8.0001	7721.276	8.0001	-0.00003
11.5001	8311.987	11.5000	-0.00007
15.0000	8933.981	15.0001	0.00006
18.5001	9587.980	18.5001	-0.00001
22.0000	10274.673	22.0000	0.00003
25.5000	10994.761	25.5000	0.00000
29.0001	11748.906	29.0001	-0.00004
32.5001	12537.710	32.5001	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

