

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 0997  
CALIBRATION DATE: 29-Jan-09

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.88447280e-003  
h = 6.83249660e-004  
i = 2.87083546e-005  
j = 2.40495161e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68121337e-003  
b = 6.00738632e-004  
c = 1.51206766e-005  
d = 2.40644624e-006  
f0 = 6599.944

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5001	6599.944	-1.5001	0.00002
0.9999	6979.878	0.9999	-0.00004
4.4999	7537.937	4.4999	-0.00001
7.9999	8127.243	7.9999	0.00003
11.4999	8748.594	11.4999	0.00001
14.9999	9402.788	14.9999	0.00001
18.4999	10090.573	18.4999	-0.00003
22.0000	10812.705	21.9999	-0.00005
25.4999	11569.842	25.4999	0.00004
28.9999	12362.670	28.9999	0.00004
32.4999	13191.801	32.4999	-0.00003

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

