

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 2946  
CALIBRATION DATE: 19-Jun-08

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.34403262e-003  
h = 6.39117409e-004  
i = 2.13550119e-005  
j = 1.82276457e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68121479e-003  
b = 5.99762641e-004  
c = 1.55203863e-005  
d = 1.82420886e-006  
f0 = 2921.139

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5002	2921.139	-1.5002	0.00002
0.9998	3089.588	0.9998	-0.00003
4.4998	3337.070	4.4998	-0.00000
7.9998	3598.490	7.9998	0.00001
11.4998	3874.230	11.4998	0.00003
14.9998	4164.658	14.9998	0.00002
18.4998	4470.131	18.4998	-0.00005
21.9998	4791.008	21.9997	-0.00007
25.4998	5127.636	25.4998	0.00003
28.9998	5480.326	28.9999	0.00009
32.4998	5849.374	32.4997	-0.00005

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

