

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 1324  
CALIBRATION DATE: 20-Sep-03

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.35192536e-003  
h = 6.39401197e-004  
i = 2.13791749e-005  
j = 1.78037473e-006  
f0 = 1000.0

## ITS-68 COEFFICIENTS

a = 3.68120782e-003  
b = 5.99448461e-004  
c = 1.56124881e-005  
d = 1.78181940e-006  
f0 = 2958.779

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.4996	2958.779	-1.4997	-0.00007
1.0004	3129.507	1.0005	0.00010
4.5005	3380.332	4.5005	0.00004
8.0005	3645.292	8.0004	-0.00008
11.5005	3924.800	11.5005	-0.00004
15.0005	4219.226	15.0005	0.00002
18.5005	4528.930	18.5005	0.00001
22.0005	4854.279	22.0005	0.00003
25.5005	5195.614	25.5005	0.00001
29.0005	5553.271	29.0005	-0.00003
32.5005	5927.583	32.5005	0.00000

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

