

# SEA-BIRD ELECTRONICS, INC.

1808 136th Place N.E., Bellevue, Washington, 98005 USA

Phone: (425) 643 - 9866 Fax (425) 643 - 9954 Email: seabird@seabird.com

SENSOR SERIAL NUMBER: 1324  
CALIBRATION DATE: 08-Jun-99

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.85855223e-003  
h = 6.80001606e-004  
i = 2.89057126e-005  
j = 2.51797584e-006  
f0 = 1000.0

## ITS-68 COEFFICIENTS

a = 3.68143921e-003  
b = 5.98944366e-004  
c = 1.49314339e-005  
d = 2.51946600e-006  
f0 = 6382.181

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5167	6382.181	-1.5167	-0.00004
1.0440	6759.910	1.0440	0.00002
4.6176	7313.626	4.6177	0.00008
8.1242	7887.793	8.1242	0.00001
11.6279	8492.813	11.6278	-0.00005
15.1881	9140.459	15.1880	-0.00009
18.6516	9803.057	18.6517	0.00002
22.1526	10506.099	22.1526	0.00002
25.6802	11249.022	25.6802	0.00004
29.1515	12014.561	29.1515	0.00003
32.6261	12815.666	32.6261	-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 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

