

# SEA-BIRD ELECTRONICS, INC.

13431 NE 20th Street, Bellevue, Washington, 98005-2010 USA

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

SENSOR SERIAL NUMBER: 0696  
CALIBRATION DATE: 15-Dec-10

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.84798477e-003  
h = 6.91328432e-004  
i = 3.41611095e-005  
j = 3.29622288e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68120931e-003  
b = 5.99783262e-004  
c = 1.61606186e-005  
d = 3.29791846e-006  
f0 = 6190.890

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.4999	6190.890	-1.4998	0.00012
1.0001	6547.870	1.0000	-0.00011
4.5001	7072.415	4.5000	-0.00011
8.0001	7626.533	8.0001	-0.00001
11.5001	8210.955	11.5001	0.00002
15.0001	8826.431	15.0002	0.00011
18.5001	9473.631	18.5002	0.00013
22.0001	10153.222	22.0002	0.00008
25.5001	10865.795	25.4999	-0.00020
29.0001	11612.043	28.9999	-0.00025
32.5001	12392.595	32.5003	0.00022

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

