

# Sea-Bird Electronics, Inc.

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

Phone: (+1) 425-643-9866 Fax (+1) 425-643-9954 Email: seabird@seabird.com

SENSOR SERIAL NUMBER: 3115  
CALIBRATION DATE: 28-Jun-12

SBE16 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

$g = 4.18131517\text{e-}003$   
 $h = 6.00905357\text{e-}004$   
 $i = 8.71587163\text{e-}006$   
 $j = -9.76237452\text{e-}007$   
 $f_0 = 1000.0$

## IPTS-68 COEFFICIENTS

$a = 3.64763755\text{e-}003$   
 $b = 5.82958802\text{e-}004$   
 $c = 1.13798914\text{e-}005$   
 $d = -9.75522243\text{e-}007$   
 $f_0 = 2462.268$

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
1.0000	2462.268	0.9998	-0.00019
4.5000	2664.756	4.5004	0.00036
15.0000	3343.547	14.9997	-0.00029
18.5000	3594.854	18.4999	-0.00011
24.0000	4016.383	24.0003	0.00029
29.0000	4428.768	29.0001	0.00008
32.5000	4734.550	32.4999	-0.00013

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

