

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: 1049
CALIBRATION DATE: 17-Feb-99

SBE3 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

ITS-90 COEFFICIENTS

g = 4.84617310e-003
h = 6.76134452e-004
i = 2.64371876e-005
j = 2.08924165e-006
f0 = 1000.0

ITS-68 COEFFICIENTS

a = 3.68149260e-003
b = 6.00356005e-004
c = 1.49621174e-005
d = 2.09067987e-006
f0 = 6266.069

| BATH TEMP (ITS-90) | INSTRUMENT FREQ (Hz) | INST TEMP (ITS-90) | RESIDUAL (ITS-90) |
|-----------------------|-------------------------|-----------------------|----------------------|
| -1.5207 | 6266.069 | -1.5207 | -0.00003 |
| 1.0403 | 6636.069 | 1.0403 | 0.00002 |
| 4.6141 | 7178.356 | 4.6141 | 0.00003 |
| 8.1208 | 7740.605 | 8.1208 | 0.00003 |
| 11.6247 | 8332.999 | 11.6247 | -0.00005 |
| 15.1852 | 8967.094 | 15.1851 | -0.00007 |
| 18.6487 | 9615.773 | 18.6488 | 0.00003 |
| 22.1499 | 10304.062 | 22.1499 | 0.00004 |
| 25.6776 | 11031.402 | 25.6777 | 0.00003 |
| 29.1489 | 11780.892 | 29.1489 | -0.00003 |
| 32.6235 | 12565.296 | 32.6235 | -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

