APPLICATION NOTE NO. 60   January 1, 2001

Year 2000 Compatibility for Sea-Bird Instruments and Software

This Application Note describes Sea-Bird instrument and software compatibility with the Year 2000 and beyond. The information in this Application Note was previously included in our Year 2000 Compatibility statement (dated September 22, 1998).

For Year 2000 Compatibility, Sea-Bird products can be categorized as follows:
- **Real-time data acquisition systems** (SBE 911*plus* CTD system; SBE 19 SEACAT Profiler; SBE 21 SEACAT Thermosalinograph; and SBE 25 SEALOGGER)
- **Internally recording SEACAT-type instruments** (SBE 16 C & T Recorder; SBE 16DO C, T, & DO Recorder; SBE 19 SEACAT Profiler; SBE 21 SEACAT Thermosalinograph; SBE 25 SEALOGGER; and SBE 26 SEAGAUGE Wave & Tide Recorder)
- **All other instruments**

Each of these categories is covered separately below.

Real-Time Data Acquisition Systems (SBE 911*plus*, 19, 21, and 25)

1. *Time Stamps*
   Time stamps created during real-time data acquisition are generated by either the acquisition computer (PC) system clock or the GPS receiver. The time stamps are compatible with the year 2000, to the extent that the computer or GPS is Year 2000 compatible.

2. *Data Processing*
   For SEASOFT module DATCNV:
   - SEASOFT software version 4.235 or earlier - The year is not written in the start_time field of the output .cnv file header if the year is 2000 or greater.
   - SEASOFT software version 4.236 or later - The year is correctly written in the start_time field.
   Note: The latest version of SEASOFT can be downloaded from our FTP site. See our website (www.seabird.com) and click on FTP Site for details on downloading the software.

Internally Recording SEACAT-type Instruments (SBE 16, 16DO, 19, 21, 25, and 26)

The year is reported with two digits only. These instruments are compatible with the year 2000 with the following limitations:

1. *All SEACAT-type Instruments*
   When uploading the data from memory, the **DS** (display status) command is automatically sent by the Sea-Bird terminal program, causing the current date (in ASCII format) to be included in the header for the uploaded data. When calendar year 1999 rolls over into year 2000, the **DS** command will display the year as **:0** instead of **00**. Similarly, if the date has not been corrected as described below, the **DS** command will display the year as **:1** in 2001, **:2** in 2002, etc.). **This condition does not affect data sampling or acquisition in any way.** To correct the date:
   - If you already uploaded the data and the header shows the year incorrectly -
     Use a text editor to correct the header.
   - If you haven't already uploaded the data - Set the year as follows:
     A. At the **S>**, type **ST** and hit the Enter key.
     B. At the prompt for date, enter the date (format mmddyy) with the correct two-digit designation for the year (for example, **00** for 2000, **01** for 2001, etc.). At the prompt for time, enter the time.
     The date and time are corrected, and will display correctly in the **DS** command.

2. *SBE 16 and 16DO programmed to switch Sampling Intervals*
   Data sampling will be unpredictable if:
   - You set up the instrument to switch sampling intervals automatically (setting multiple start dates and sampling intervals with the **TI** command),
   - The first start date was in 1999, **and**
   - The start dates spanned into 2000 and beyond.

3. *SBE 16 and 16DO programmed for Delayed Start*
   Note: At this date (January 2001), this information is included for completeness only. The described problem can only occur if the current year is set to 1999.
   If in 1999 you set a delayed start date (with the **TI** command) to a date in the year 2000 (or later) and then sent the **GL** or **RL** command (commanding the instrument to start when the delayed start date is reached), the instrument immediately gave an error message and refused to accept the start command. To correct the problem, the user needed to set a fictitious year prior to 1999 as the current date, set the start date in 1999, and after data upload correct the dates in the data file with a text editor.

4. *SBE 26*
   - SEASOFT for Waves software version 4.106 or earlier - If the SBE 26 is started in the year 2000 or beyond, the data reports the year as 89.
   - SEASOFT for Waves software version 4.107 or later - The software prompts the user to enter the year that the first tide sample was taken, and then reports the year correctly with four digits.
   Note: The latest version of SEASOFT for Waves can be downloaded from our FTP site. See our website (www.seabird.com) and click on FTP Site for details on downloading the software.

All Other Sea-Bird Instruments

All Sea-Bird instruments not discussed above are Year 2000 Compatible. Depending on the instrument:
- The year is reported with four digits and is Year 2000 compatible, **or**
- The date is not included with the data.