

Next Generation SEAGAUGE — SBE 26*plus* Wave & Tide Recorder

The SBE 26*plus*, the next generation SEAGAUGE, replaced the SBE 26 on June 1, 2004, bringing numerous improvements:

- **More power available and less power consumed** – SBE 26*plus* holds 12 batteries and has improved power consumption characteristics; SBE 26 held 9 batteries. Power endurance is increased by a factor of 6 for a typical sampling scheme (varies).
- **More memory** – SBE 26*plus* has 32 Mbyte memory; SBE 26 had 8 Mbyte memory.
- **Programmable logging start and stop time** – SBE 26*plus* can be pre-programmed to start and stop logging at a specified date and time; SBE 26 could only be started and stopped by command.
- **Programmable tide integration** – SBE 26*plus* can be programmed to remove power from the pressure sensor between tide measurements, conserving battery power; SBE 26 continuously measured pressure.
- **Faster data upload** – SBE 26*plus* allows binary upload at up to 115,200 baud; SBE 26 uploaded in ASCII at up to 38,400 baud. Because binary upload is inherently twice as fast, upload speed is increased by a factor of 6.
- **Easy firmware upgrades** – SBE 26*plus* future firmware upgrades can be downloaded via the data I/O connector; SBE 26 upgrades required opening the housing electronics compartment to install a new EEPROM.



All of these improvements were accomplished without changing the outside housing dimensions, allowing you to use the SBE 26*plus* with an existing mounting fixture purchased or built for the SBE 26.

Addition to MicroCAT C-T Family — SBE 37-SIP

The MicroCAT family continues to grow, with the introduction in December 2003 of another new version with an **integral, internal pump**. The pump typically runs for 1/2 second each time the MicroCAT samples, providing:

- **Improved conductivity response** – pump flushes the previously sampled water from the conductivity cell and brings a new water sample quickly into the cell.
- **Improved anti-foul protection** – water does not freely flow through the conductivity cell between samples, allowing the anti-foul concentration inside the cell to build up.

*Note: The pump runs continuously when sampling at intervals of less than 10 seconds.

The **SBE 37-SIP** combines the features of the 37-SI (Serial Interface) with the pump, and is available with RS-232 or RS-485 interface. The complete MicroCAT family now includes the -SI, -SIP, -SM (Serial interface, Memory), -SMP (Serial interface, Memory, integral Pump), -IM (Inductive Modem), and -IMP (Inductive Modem, integral Pump). All MicroCATs measure conductivity, temperature, and optional pressure.



New Nickel Metal Hydride Battery Pack and Charger

A Nickel Metal Hydride (Ni-MH) battery pack and charger will be available August 1, 2004, offering the following advantages over our older Nickel-Cadmium (Ni-Cad) battery pack and charger:

- **More power** - 9 amp-hours vs 4.4 amp-hours for Ni-Cads.
- **Faster recharge** - Recharge in 1.5 hours vs 16 hours for Ni-Cads.
- **More recharge cycles** - Advanced charging techniques allow Ni-MH battery pack to hold 500 charges.
- **Minimal memory effect (voltage droop)** - Full discharge every time vs Ni-Cads, which fail to provide full discharge after repeated partial discharges or long-term storage.
- **Peace of mind** - Ni-MH charger displays the amount of energy put into the battery pack, providing assurance that the batteries are ready for deployment.

The Ni-MH battery pack and charger will be included as standard equipment with the SBE 17*plus* SEARAM and as an option for the SBE 19*plus* SEACAT and SBE 25 SEALOGGER CTDs. Sea-Bird will continue to supply Ni-Cad battery packs and chargers if requested.

Sales and Service

Electro Chem Lithium Batteries

Electro Chem lithium battery packs were previously available as options for the SBE 16, 16*plus*, 16*plus*-IM, and 26. Sea-Bird is no longer able to ship Electro Chem lithium battery packs or cells, due to changes in U.S. DOT and IATA regulations. We are now selling battery pack kits (which do not include the batteries); you can use the kits to build battery packs with lithium batteries that you purchase locally.

Software and Data Analysis

Updates to Data Processing Software in SEASOFT-Win32

The first Beta version of the **SeaPlot** module in SBE Data Processing was introduced in 2002. Since then, we have continued development and testing, adding new features to provide a robust plotting program. The completed, release version of SeaPlot became available in October 2003; features include (newest features in bold):

- Plot up to 5 variables on one plot, with a single X axis and up to four Y axes or a single Y axis and up to four X axes.
- Plot any variable on a linear or logarithmic scale (logarithmic scale not applicable to TS plots).
- Derive and plot *derived salinity* and/or *derived density*, if conductivity, temperature, and pressure data are in the input file. This allows you to skip running Derive if salinity and density are the only derived parameters you are interested in. Alternatively, you can calculate and plot *derived salinity* and/or *derived density* even if salinity and density are already in the input file; the values may differ because of processing steps performed on C, T, or P after Derive was run.
- Plot time series data; the time scale selections include Julian Days, elapsed time in hours, minutes, or seconds, or date and time.
- **Create contour plots, generating density or thermosteric anomaly contours on temperature-salinity (TS) plots.**
- Process and plot multiple input files that contain the same variables and with the same setup parameters, each on their own plot, allowing the user to quickly switch the view from one file to the next.
- Process and plot multiple input files that contain the same variables on an overlay plot, allowing the user to view multiple sets of data at the same time. If desired, the user can offset each file on the plot to create a *waterfall* plot.
- Zoom in on plot features.
- Send plots to a printer, save plots to the clipboard for insertion in another program (such as Microsoft Word), or save plots as graphic files in bitmap, metafile, or JPEG format.
- Run in batch processing mode.

To get the release version of SeaPlot, download the latest version of SBE Data Processing from our ftp site (<ftp://ftp.halcyon.com/pub/seabird/OUT/Seasoft-Win32/SBEDataProcessing/>).

Website Tips

Check out the link from our Sales Information page (www.seabird.com/sales_info/quotetips.htm) to the Spare Parts Kit listing, which provides part numbers and links to .pdf documents for the most commonly used spare parts kits.

Training

Our training classes continue to **fill up rapidly**, typically several months before each class. The curriculum covers profiling instruments (days 1-3) and moored instruments, thermosalinographs, and wave and tide recorders (day 4). The class is hands-on in nature, and includes extensive *practice* using our instruments for real-time data acquisition and processing the data. The course syllabus and course handouts are available on our website (<http://www.seabird.com/training/trainingclass.htm>).



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