

PRODUCT NEWS

NEW SBE 56 Temperature Logger

The SBE 56 is a low-cost, battery-powered temperature recorder with a user-programmable sample interval from 0.5 seconds to 9 hours, providing excellent accuracy (0.002 °C), resolution (0.0001 °C), and stability (drift < 0.002 °C/ year). Using one 3.6 volt AA lithium battery, it can acquire data for 1 month (5.3 million samples) at 0.5-second intervals; at 4 samples per minute, the battery lasts nearly 2 years. The SBE 56 is equipped with real-time clock, plastic housing (to 1500 meters), USB interface, and easy-to-use software for setup, fast data upload (°C, date and time), and plotting on nearly any computer operating system.



NEW SBE 37 MicroCAT moored CTD with Integrated Dissolved Oxygen (IDO)

The MicroCAT-IDO measures C, T, P (optional), and DO in a compact and economical package, joining more than 8000 MicroCATs deployed worldwide since 1997. The DO sensor is based on our field-proven SBE 43; *Adaptive Pump Control* calculates optimal pumping time for best DO accuracy. The expendable anti-foulant devices, unique flow path, and pumping regimen provide maximum bio-fouling protection. The MicroCAT-IDO is available for depths to 250 or 7000 meters, in each of our MicroCAT families:

- SBE 37-SMP-IDO (RS-232 or RS-485 interface, internal memory and batteries)
- SBE 37-SIP-IDO (RS-232 or RS-485 interface, internal memory, externally powered)
- SBE 37-IMP-IDO (Inductive Modem interface, internal memory and batteries)



NEW Glider Payload CTD



Sea-Bird introduced two low-power, high-accuracy, pumped CTDs for autonomous gliders: a Slocum-specific CTD for retrofit/replacement on the fleet of existing Slocum gliders, and a more *generic* Glider Payload CTD that supports an optional modular dissolved oxygen sensor. The designs share many features, but there are differences in packaging, sampling ability, power consumption, and installation.

REDESIGNED SBE 37 MicroCAT moored CTD with Pump (37-IMP, 37-SMP, 37-SIP)

A redesign of the pump, housing, electronics, and battery pack was implemented in SBE 37 Pumped MicroCATs in April 2011. The redesign brings significant benefits (including a large increase in deployment length as a result of reduced pump power requirements) without increasing the price. Sea-Bird began shipping these instruments in April 2011; we will continue to provide the old design on request, through September 2011.

CE Certification

Sea-Bird is pleased to announce that CE certification of most of our instruments was completed in late 2009. All certified instruments now have a CE label on the manual cover page (see <http://www.seabird.com/products/ModelList.htm>).

SEA-BIRD NEWS

Formation of Sea-Bird Ocean Measurement Group

We are pleased to announce the formation of the Sea-Bird Ocean Measurement Group, joining Sea-Bird Electronics, WET Labs, and Satlantic to provide the best in biogeochemical and physical oceanographic sensors, and allowing us to better develop, design, and deliver comprehensive, integrated systems. The acquisition of WET Labs in 2010 and Satlantic in 2011, and formation of the Sea-Bird Ocean Measurement Group, is part of our continuing focus to provide the highest quality instruments and measurements available to our oceanographic, coastal, and estuarine customers.

Keep Up with Sea-Bird on Facebook

In keeping with social media trends, Sea-Bird established a Facebook page. If you are a Facebook user, click on the Facebook link on our website home page and click *Like* to become a fan. Receive posts to your wall on the latest customer applications, videos, photos, and career opportunities; share comments, suggestions and ideas.

SEA-BIRD NEWS *continued*

Student Equipment Loan Program

WET Labs and Sea-Bird are soliciting innovative proposals from outstanding graduate students at U.S. universities, for study of environmental variables in oceans, estuaries, rivers, lakes, or laboratories. Award recipients will be loaned Sea-Bird and/or WET Labs equipment for up to one year. Proposals can be submitted for either/both of the following:

- Annual grant proposals are due December 31, 2011; grants will be announced February 15, 2012.
- We may also issue an RFP for a specific field of study; the RFP will contain submission and award timelines.

It is expected that 4 awards will be made. See www.seabird.com/StudentGrants.htm for details.

SOFTWARE AND DATA ANALYSIS

Seaterm V2, a new terminal program *launcher*, was released in November 2008. With Seaterm V2, you select the desired instrument, and the appropriate terminal program is launched. Each of the integrated terminal programs provide simplified instrument setup and testing, minimizing the need to read Help files or the instrument manual. Seaterm V2 is compatible with instruments developed or redesigned in 2006 and later: SEACAT*plus* V2 (SBE 16*plus* V2, 16*plus*-IM V2, 19*plus* V2), MicroCAT (37-SM, SMP, SI, SIP, IM, IMP with version 3 or later firmware), MicroCAT-IDO (37-SMP-IDO, SIP-IDO, IMP-IDO), SBE 54 Tsunameter, SBE 56 Temperature Logger, and Glider Payload CTD.

Deployment Endurance Calculator, an aid for quickly determining maximum deployment length for a moored instrument, was released in 2009. Inputs to the program include the instrument type, firmware revision, sample interval, use of a pump and/or auxiliary sensors (as applicable), and type of battery. The Calculator outputs the expected maximum deployment length in days, based on our conservative estimate of battery capacity. See www.seabird.com/software/DeploymentEnduranceCalc.htm. (Note: The Calculator replaces the Sea-Bird provided spreadsheet previously used by many customers.)

Seasave V7 and SBE Data Processing -- Sea-Bird research on **oxygen sensors** led to the development of a correction algorithm for deep-water hysteresis. The hysteresis correction algorithm (using H1, H2, and H3 values entered for the SBE 43 in the configuration file) operates through the entire data profile and corrects the **oxygen voltage values** for changes in membrane permeability as pressure varies. At each measurement, the correction to the membrane permeability is calculated based on the current pressure and how long the sensor spent at previous pressures. For more information, see Application Note 64 (www.seabird.com/application_notes/AN64.htm).

Seasave V7 has several additional new features:

- The ability to append NMEA data from a NMEA device connected *directly* to the computer has been added for most instruments. Previously, NMEA data could be appended only if the NMEA device was connected to a deck unit (SBE 11*plus*, 33, or 36, or one of our NMEA-compatible interface boxes).
- The ability to create TS plots, similar to the TS plots available in SBE Data Processing's Sea Plot module.
- *Short* names can be used on a fixed display, reducing the space needed for each display.

SBE Data Processing -- SeatermV2 version 1.1 or later uploads MicroCAT data to a .hex file and also creates a .xmlcon configuration file, allowing the data to be processed with SBE Data Processing's Data Conversion module. This provides the ability to do drift corrections on MicroCAT data, using post-deployment calibration coefficients.

WEBSITE TIPS (www.seabird.com)

Check out these recent website additions:

Papers/Posters (to view these and other papers, pull down *Support* on our home page to select *Technical Papers*)

- *On the Use of a Secondary Standard to Improve Autosal Calibration* -- AGU Ocean Sciences, Feb. 2010
- *Calibration, Response and Hysteresis in Deep Sea Dissolved Oxygen Measurements* -- Journal of Atmospheric and Oceanic Technology, Feb. 2010
- *Considerations for CTD Spatial and Temporal Resolution on Moving Platforms* -- Ocean News & Technology, Sept. 2009

Application Notes (to view these and other application notes, pull down *Support* on our home page to select *Application notes*)

- *Application Note 89: Retrofit Battery Pack for SBE 37 MicroCAT and SBE 44 Underwater Inductive Modem*
- *Application Note 90: Absolute Salinity and TEOS-10: Sea-Bird's Implementation Plans*



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