

CurrentSurveyor Expanded Description



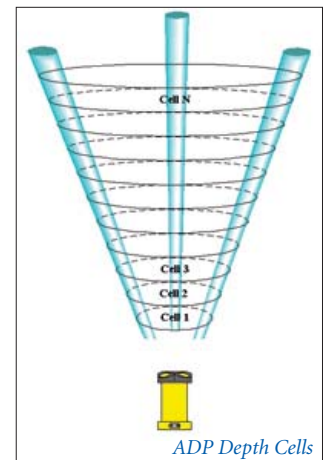
CurrentSurveyor is the second of our state-of-the-art data acquisition systems for current profiling. This is the continuation of SonTek's policy to provide systems and software that are specialized appropriately for the application in hand. Like the RiverSurveyor package, the CurrentSurveyor is designed for use from moving boats. However, while users of RiverSurveyor are primarily interested in measuring the discharge through a cross-section of water (usually a river), CurrentSurveyor is intended to gather profiles of velocity from survey launches.



Like RiverSurveyor, CurrentSurveyor integrates velocity profiles with bottom tracking and a DGPS interface in a Windows 9x/2k/NT environment. However, as discharge is not a primary concern, additional profiling detail is provided in place of discharge calculations. Also, whereas loss of bottom lock is identified as a potential source of great error in discharge calculations, it is assumed that CurrentSurveyor will often be used in situations where bottom tracking is not possible.

CurrentSurveyor also allows for contours of signal strength to be displayed in real-time in place of velocity (though all data is, of course, recorded). We know this will be of great value to those who need to track plumes of material (e.g., the dredging industry).

The CurrentSurveyor system uses a SonTek ADP (Acoustic Doppler Profiler) as the primary hardware component. The ADP is a high-performance current profiler that is accurate, reliable, and easy to use. The ADP measures 3D velocity in a user-specified number of depth cells over a range of up to 110 m. The first current profiler designed specifically for shallow water applications, the ADP has revolutionized the current profiler market since being introduced in 1994. Our Windows-based CurrentSurveyor real-time program makes it easy to display and analyze data.



CurrentSurveyor ADPs use SonTek's proven Doppler technology to make the most accurate and robust current measurements possible. With no moving parts, the ADP is highly resistant to biofouling even in the most challenging environments. The ADP is simple to use, affordable, and does not require recalibration or factory maintenance.

The ADP uses state-of-the-art transducers and electronics designed to reduce side lobe interference problems that plague other current profilers. This allows the ADP to make the near-bottom current measurement that is so critical to accurate discharge calculations.

CurrentSurveyor ADP System Configurations

CurrentSurveyor ADPs are available in a variety of models and configurations. The most popular model stands 30.5 cm (12 inch-

SonTek/YSI, founded in 1992 and advancing environmental science in over 100 countries, manufactures affordable, reliable acoustic Doppler instrumentation for water velocity measurement in oceans, rivers, lakes, harbors, estuaries, and laboratories. Headquarters are located in San Diego, California.

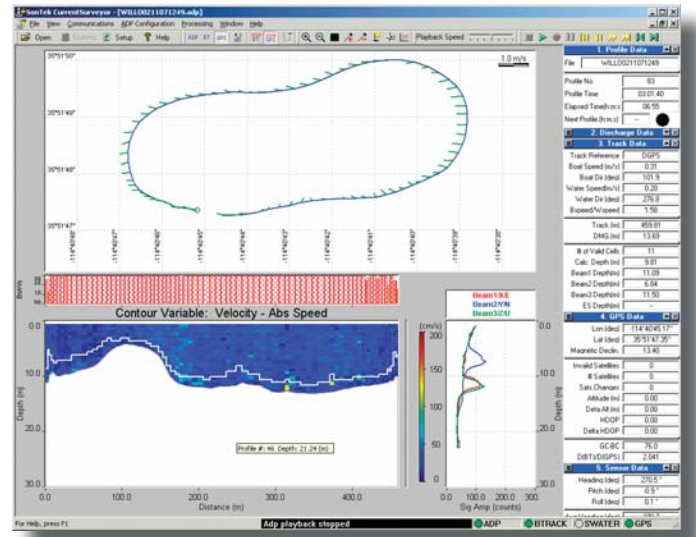
es) tall (0.25 and 0.5-MHz models are slightly taller) and features three acoustic transducers. Our extensive experience has shown that three transducers provide excellent performance under most circumstances. As we realize that some customers may be accustomed to four-beam (Janus) arrangements, this is offered as a special option for an additional cost.

CurrentSurveyor ADP Standard Features

The standard features available for CurrentSurveyor ADPs are described below.

Acoustic Frequency

The most important choice when selecting an ADP is acoustic frequency. This determines the range of the ADP and the resolution within the profile. Lower frequencies give longer ranges, while higher frequencies give shorter range with higher resolution. The CurrentSurveyor ADP is available in five standard frequencies – 0.25, 0.5, 1.0, 1.5, and 3.0 MHz.



CurrentSurveyor Software

Programmable Sampling Parameters

All parameters relating to ADP operation can be easily selected by the user. These include depth cell size, number of depth cells, and averaging time for each profile. The ADP also supports a range of flexible sampling strategies for reduced duty cycle operation and burst sampling. The velocity-referencing method (DGPS, bottom-track, or both) is also a simply-set parameter.

Diagnostic Parameters

All ADPs record extensive diagnostic parameters with each profile. These include signal strength (to determine the effective profile range and estimate suspended sediment concentration) and standard deviation of velocity data (a direct measure of the accuracy of velocity data).

Temperature Sensor

All ADPs include a temperature sensor to automatically compensate for changes in sound speed. The ADP uses sound speed to convert the measured Doppler shift to water velocity.

Serial Communication Protocol

All ADPs support RS232 and RS422 serial communication. RS232 is used for operation on cable lengths to 100 m. RS422 is used for cable lengths to 1500 m.

SonTek/YSI
9940 Summers Ridge Road
San Diego, CA 92121
Tel: +1 858 546 8327
Fax: +1 858 546 8150
Email: inquiry@sontek.com
Web: www.y.si.com



Sound Principles. Good Advice.



Sound Principles. Good Advice.

