



# RiverSurveyor<sup>®</sup>

DISCHARGE, BATHYMETRY AND CURRENT PROFILING

S5

M9



a xylem brand





## Taken to Extremes.

It's a SonTek exclusive - multiple acoustic frequencies fused with precise bandwidth control make for the most robust and continuous shallow-to-deep measurements ever. A deterministic microcontroller expertly apportions the proper acoustics, pulse scheme, and cell size so you can focus on the measurement - not the instrument setup. The system even has an embedded echosounder (vertical beam) for precise channel definition - and it's all designed to work intuitively.

Leading edge technologies such as 2.4 GHz telemetry, mobile phones, and RTK (Real-Time Kinematic) GPS are all incorporated to elevate performance and expand utility.



**Upgrade and Save.** Good news for RiverSurveyor M9 users who also require bathymetric data. Now you can upgrade your RiverSurveyor M9 to include the bathymetry power of the **HydroSurveyor** - a system designed to collect bathymetric, water column velocity profile, and acoustic bottom tracking data as part of a hydrographic survey.

The HydroSurveyor upgrade is all inclusive:

- Full water column velocity mapping,
- Exclusive 5-beam depth sounding
- Acoustic bottom tracking (for speed over ground when GPS is lost)
- Sound speed integration and interpolation (when using with the CastAway-CTD)

Features	Benefits
Multiple acoustic frequencies*	Combines the highest resolution with the greatest range of depths.
Vertical acoustic beam (echosounder)*	Superior channel definition, extends the maximum measurable discharge depth.
Automated cell size*	Always uses the optimal resolution for channel depth - no user input required.
Automated pulse scheme and frequency hopping*	Automatically adjusts the acoustic Doppler sampling (ping) scheme for channel conditions. User does not need to pre-program unit.
Microprocessor computed discharge and secure data*	All discharge computations are done within the S5 or M9 unit internally (in addition to the computer). No lost data from communications drop outs.
Standard 360° compass and two-axis tilt sensor	Compensates for vessel motion due to surface conditions.
Reverberation control with ping rates to 70Hz	High ping rates ensure extremely robust data collection.
Pulse-coherent processing	Maximizes high resolution performance in shallow water.
Bottom-tracking	High precision vessel tracking and depth measurement without GPS requirement.
RTK GPS (optional)	Ultra precise earth-referenced positioning as an alternative to bottom tracking in moving bed or other difficult situations.

\*RiverSurveyor technology patent number 8,125,849

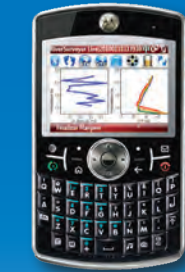
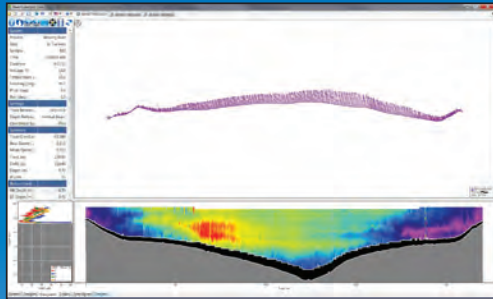


## Display. Process. Analyze.

Exceed your expectations both during and after the measurement with the RiverSurveyor Live! software suite for both PC and mobile platforms. All programs take full advantage of SmartPulseHD™ and the intelligent software ensures no loss of data during telemetry dropouts. Easily switch between computer or mobile devices during mid-measurement. Several quality indicators and statistics with selectable graphics provide instant feedback on data collection. Multi-language support includes Afrikaans, Catalan, Chinese, English (UK & US), French, German, Hungarian, Italian, Japanese, Korean, Polish, Portuguese, Spanish and Turkish. Need your language? Let us know at [inquiry@sontek.com](mailto:inquiry@sontek.com).

### Moving Boat

Standard with every system and used for underway measurements that calculate discharge from a moving vessel.

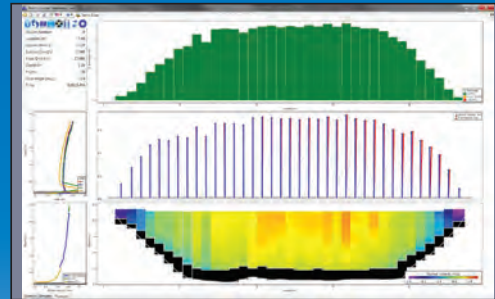


RiverSurveyor Live  
Mobile Multi-language Display

- Enables you to efficiently transect from one bank to the other with a full contour plot of the water velocity profile and bottom bathymetry.
- View multiple data results (bottom-track, vertical beam, GPS-GGA, and GPS-VTG) simultaneously.
- Supports USGS Loop Correction Method for moving bed conditions.

### Stationary (Section-by-Section)

Optional add-on program that uses traditional USGS/ISO mid section or mean section methods.



RiverSurveyor Stationary Live  
Mobile Display

- An alternative to moving boat method for highly turbulent areas or moving bed environments where GPS is unavailable.
- Supports discharge measurements through ice holes.
- Supports sections that are braided or have islands.

## HydroBoard II: Moving Boat Solution for SonTek ADP®'s

**Face challenging white water conditions and extreme weather events head-on with the new SonTek HydroBoard II.**

**Innovative.** Face the challenge of high velocity discharge measurements with the confidence gained from the use of the new SonTek HydroBoard II. The new dive-resistant, flexible body design allows the HydroBoard II to be used anywhere from low velocity irrigation canals to high-velocity mountain streams.

**Rugged.** Specifically designed with the full forces of nature in mind, the HydroBoard II uses a highly buoyant material, secure mounting hardware for the RiverSurveyor and HydroSurveyor ADP systems.

**Stable.** One of the great sources of error in an ADP discharge measurement is excessive and irregular speed. This sleek and sturdy design provides the user with the platform to achieve the controlled speed and tracking conducive to quality ADP discharge measurements.





