

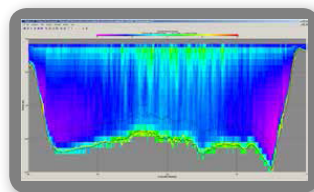
RiverRay ADCP - Intelligent River Discharge System

A Revolution in Discharge Measurement

Go straight to work collecting highly accurate stream and river discharge data with the **RiverRay ADCP** (Acoustic Doppler Current Profiler). This economical turnkey system comes complete with: the **RiverRay ADCP**, a custom-designed boat, userfriendly software, and convenient wireless communication - everything you need to begin making precision river discharge measurements.

With over thirty years experience delivering acoustic Doppler products, Teledyne RDI's **RiverRay** is the culmination of years of technology advances and invaluable customer feedback.

From a shallow stream to a raging river, the revolutionary **RiverRay** delivers the simplicity and reliability your operations require, at a price that won't break your budget.



The RiverRay ADCP utilizes a flat surface 4-beam phased-array transducer. A dedicated fifth beam is used to measure depth.

Product Features

- **Easy of use:** Easy to carry, easy to deploy, and easy to operate; just power and go.
- **Intelligent:** Automatic adaptive sampling, which quickly provides accurate discharge measurements without the need for user configuration.
- **Customizable:** A manual override, which allows advanced users the ability to fully customize their system setting as an alternative to auto-adaptive sampling.
- **Fully integrated GPS** for geo-referencing.
- **Flat transducer:** The sleek phased array transducer design provides reduced size, weight, and flow disturbance.
- **Versatile:** A single instrument can deliver high quality data in environments ranging from a 0.4 m stream to a 60 m deep river.
- **Superior surface measurements:** Interwoven independent and short range measurements improve the discharge computation in your critical surface layer.
- **Platform stability:** RiverRay's float boasts reduced drag, causes less flow disturbance, and provides superior handling—even in high water velocities and rough surface.

ADCP (type)	IDEAL FIELD ENVIRONMENT
StreamPro ADCP	Shallow streams, 10 cm - 6 m *
RiverPro ADCP	Deep streams to shallow rivers, 20 cm - 25 m
RiverRay ADCP	Shallow to deep rivers, 40 cm - 60 m

• with extended range option



Technical Specifications

Water Velocity Profiling:	Operation mode:	Broadband / pulse-coherent; automatic / manual			
	Velocity range:	± 5 m/s default, ± 20 m/s max.			
	Profiling range :	0.4 m ¹ to 60 m ²			
	Accuracy:	± 0.25 % of water velocity relative to ADCP, ± 2 mm/s			
	Resolution:	1 mm/s			
	Number of cells:	25 typical, 200 max. (automatic selection)			
	Cell size:	10 cm min. (automatic selection)			
	Surface cell range:	25 cm ³			
Bottom Tracking:	Data output rate:	1-2 Hz (typical)			
	Operation mode:	Broadband			
	Velocity range:	± 9.5 m/s			
	Depth range:	0.4 m to 100 m ²			
	Accuracy:	± 0.25 % of bottom velocity relative to ADCP, ± 2 mm/s			
Depth Measurement:	Resolution:	1 mm/s			
	Range:	0.3 m to 100 m ²			
	Accuracy:	± 1 % (with uniform water temperature and salinity profile)			
Vertical Beam: (depth measurement)	Resolution:	1 mm ⁴			
	Range:	20 cm to 120 m			
	Accuracy:	± 1 % (with uniform water temperature and salinity profile)			
Standard Sensors:	Resolution:	1 mm			
	Temperature:	Tilt (pitch and roll):	Compass:	GPS (embedded):	
	Range:	-5 °C to 45 °C	± 90°	0-360°	3 m horizontal / 5 m vertical
	Accuracy:	± 0.5 °C	± 0.3°	± 1°	
Resolution:	0.0625 °C	0.06°	0.10°		
Transducer and Hardware:	System frequency:	614.4 kHz			
	Configuration:	Phased array (flat surface), Janus four beams at 30° nominal beam angle			
	Internal memory:	16 MB			
Communications:	Standard:	RS 232, 1200 to 115,200 baud. Bluetooth, 115,200 baud, 200 m range.			
	Optional:	Radio modem, range > 30 km (line of sight)			
Software (included):	<ul style="list-style-type: none"> • WinRiver II (standard) for moving-boat measurement • SxS Pro (optional) for stationary measurement; comes with an uncertainty model for in situ quality evaluation and control 				
Power:	Input voltage:	10.5–18 VDC			
	Power consumption:	1.5 W typical			
	Transmit Power:	8 W			
	Battery (inside float):	12 V, 7 A-hr lead acid gel cell (rechargeable)			
	Battery capacity:	> 40 hrs continuous operation			
Float (included):	Configuration:	Three hulls (trimaran)			
	Material:	Polyethylene			
	Dimensions:	Length 120 cm, width 80 cm, height 20 cm			
	Weight:	10 kg bare; 17 kg with instrument and battery			
GPS Integration (optional):	Integration with GPS (customer supplied) through RS 232 to RR data stream				
Environmental:	Operating temperature:	-5 °C to 45 °C			
	Storage temperature:	-20 °C to 50 °C			

1) Assumes one good cell (10cm); range measured from the transducer surface. 2) Assume fresh water; actual range depends on temperature and suspended solids concentration. 3) Distance measured from the center of the first cell to the transducer surface. 4) For averaged depth data. 5) For combined tilt < +/-70° and dip angle < 70°.

The right is reserved to change or amend the foregoing technical specification without prior notice

Contact:

SEBA Hydrometrie GmbH & Co. KG • Gewerbestraße 61 A • 87600 Kaufbeuren • Germany
 Telefon: +49 (0) 8341 96 48 - 0 • E-Mail: info@seba.de • Web: www.seba.de