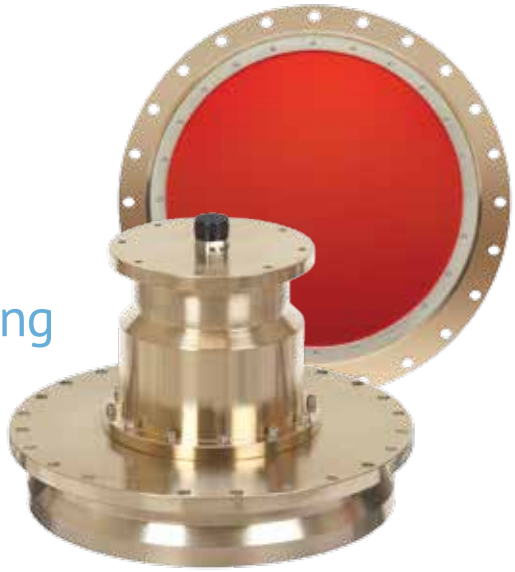
Teledyne RD Instruments

Ocean Surveyor

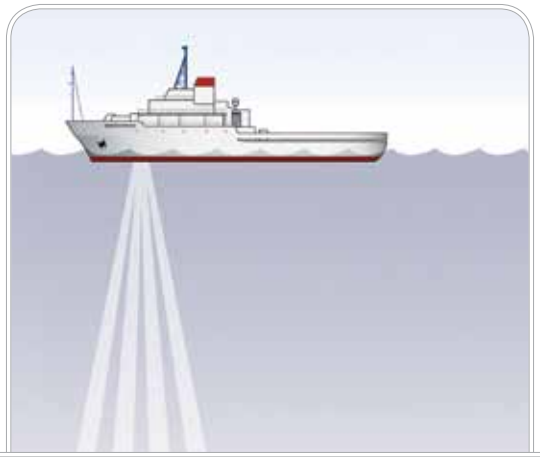
Vessel-Mount Long Range 3-D Current Profiling

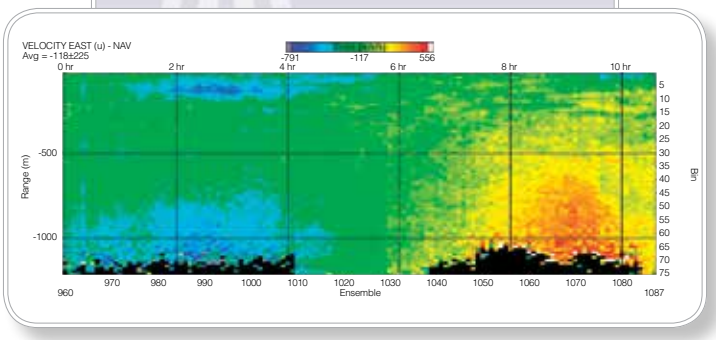


Explore New Depths with Proven ADCP Technology

For over thirty years, Teledyne RD Instruments has been the preeminent supplier of Acoustic Doppler Current Profiling (ADCP) instrumentation for open ocean applications. Teledyne RDI's vessel-mounted OCEAN SURVEYOR family of ADCPs are the only instruments capable of collecting detailed maps of the distribution of water currents and suspended materials through the water column and along the ship's path—at depths and resolutions previously considered unattainable. In real time, the ADCP is also used to aid in situ decision-making, to adapt field operations, and to understand current regime characteristics.

Frequency	Range (m)	Cell Size (m)
38kHz	>1000	24
75kHz	>700	16
150kHz	>400	8





PRODUCT FEATURES

- **Versatile:** Broadband signal processing combines with Narrowband processing to provide the ultimate in data versatility.
- **Compact:** Patented phased array transducers significantly reduce the transducer size and weight for ease of installation.
- **Comprehensive:** The Ocean Surveyor combines current profiling, backscatter profiling, and Doppler Velocity Log capability all within a single instrument.
- **Four-beam solution:** Patented phased array 4-beam design provides increased data reliability and quality assurance.

Applications:

- Climate studies
- Mid-ocean frontal mapping
- Fisheries research
- Deep-water cable-laying projects

Ocean Surveyor

Vessel-Mount Long Range 3-D Current Profiling

TECHNICAL SPECIFICATIONS

Water Profiling	**Long Range Mode**	**38kHz**		**75kHz**		**150kHz**	
	Vertical resolution cell size[1]	Max Range[2]	Precision[3]	Max Range[2]	Precision[3]	Max Range[2]	Precision[3]
	4					>350m	30cm/s
	8			>650m	30cm/s	>400m	16cm/s
	16	>1000m	30cm/s	>700m	16cm/s		
	24	>1000m	20cm/s				
	High Precision Mode	**38kHz**		**75kHz**		**150kHz**	
	Vertical resolution cell size[1]	Max Range[2]	Precision[3]	Max Range[2]	Precision[3]	Max Range[2]	Precision[3]
	4					>225m	15cm/s
	8			<425m	15cm/s	>250m	8cm/s
	16	>900m	15cm/s	>450m	7cm/s		
	24	>950m	10cm/s				
Profile Parameters	Velocity accuracy (typical)	±1.0% ± 0.5cm/s		±1.0% ± 0.5cm/s		±1.0% ± 0.5cm/s	
	Velocity range	-5 to 9m/s		-5 to 9m/s		-5 to 9m/s	
	Number of depth cells	1–128		1–128		1–128	
	Maximum ping rate	0.4Hz		0.7Hz		1.5Hz	
Bottom Track	Max altitude (precision <2cm/s)	1700m		950m		540m	
	Range Accuracy = <±2% actual range[4]						
Echo Intensity Profile	Vertical resolution	Depth cell size, user configurable					
	Dynamic range	80dB					
	Precision	±1.5dB					
Transducer and Hardware	Beam angle	30°					
	Configuration	4-beam, phased array					
	Communications	RS-232 or RS-422 hex-ASCII or binary output at 1200–115,200 baud					
System Power	AC input	90–250VAC, 47–63Hz					
	Power	1400W					
Software	Use TRDI's Windows™-based software for best results: **VMDAS**– Vessel-Mount Data Acquisition System; **WinADCP**–Data Display and Export						
Options	**Velocity** for advanced post processing						
Environmental	Operating temperature	-5° to 45°C					
	Storage temperature	-30° to 60°C					
Standard Sensors	Temperature (mounted on transducer)	Range -5° to 45°C, Precision ±0.1°C, Resolution 0.03°					
System Components	• 38, 75, or 150kHz transducer • 19" rack-mount electronic chassis • All-purpose deck box • Gyrocompass interface board • LCD gyro offset control display User to supply compass input or GPS navigation data and NMEA tilt information						
Dimensions	38kHz: 914.4mm dia.; 75kHz: 480mm dia.; 150kHz: 305mm dia. *(line drawings available upon request)*						

1 Ranges at 1 to 5 knots ship speed are typical and vary with situation.
2 Single-ping standard deviation.
3 User's choice of depth cell size is not limited to the typical values specified.
4 Excludes errors introduced by changes in speed of sound profile, by tilting of transducer, and by slope of bottom.
5 Up to ±20° tilt.

TELEDYNE
RD INSTRUMENTS
Everywhereyoulook™
www.rdinstruments.com

Teledyne RD Instruments
14020 Stowe Drive, Poway, CA 92064 USA
Tel. +1-858-842-2600 • Fax +1-858-842-2822 • Email: rdisales@teledyne.com
Les Nertieres 5 Avenue Hector Pintus 06610 La Gaude France
Tel. +33-49-211-0930 • Fax +33-49-211-0931 • Email: rdie@teledyne.com