

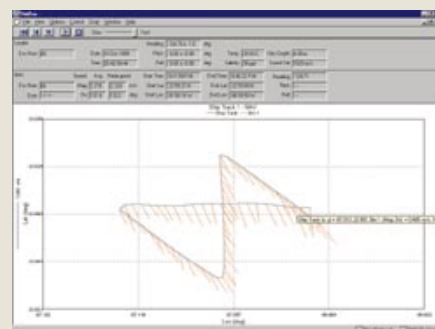
Ocean Surveyor *Vessel-Mount ADCP*

*For long-range
3-D current profiling*



The Ocean Surveyor

family of ADCPs adds a new chapter to RDI's unique contribution to the worldwide open-ocean research fleet. More than 250 vessel-mounted ADCPs have been installed around the world. These ADCPs provide



detailed maps of the distribution of water currents and suspended materials through the water column and along the ship's path. In real time, the ADCP is also used to aid in-situ decision making, to adapt field operations, and to understand current regime characteristics. Vessel-mounted ADCPs have contributed to a large range of ocean projects, as diverse as the following:

- Gulf Stream climate studies
- Mid-ocean frontal mapping
- Fisheries research
- Deep-water cable-laying jobs

The #1 proven choice in ADCPs for vessels

The only vessel-mounted ADCP incorporating:

- Patented BroadBand signal processing with: standard NarrowBand processing; patented phased array transducers which significantly reduce size/frequency ratio; current profiler, backscatter profiler, and Doppler velocity log; 4-beam design for measurement reliability.

The complete tool for the ocean community produced by the acoustic Doppler experts:

- 20 years of industry experience
- Thousands of units in operation
- Service second to none

| Frequency | Range | Cell Size |
|-----------|-----------|-----------|
| 38 kHz | 800-1000m | 24m |
| 75 kHz | 560-700m | 16m |
| 150 kHz | 375-400m | 8m |



RD Instruments

Acoustic Doppler Solutions

Ocean Surveyor Vessel-Mount ADCP

38, 75 or 150 kHz

Water Profiling

Long Range

| Mode | 38kHz | | 75 kHz | | 150kHz | |
|------------------------|--------------------|------------------------|--------------------|------------------------|--------------------|------------------------|
| Vertical | Max | | Max | | Max | |
| Resolution | Range ¹ | Precision ² | Range ¹ | Precision ² | Range ¹ | Precision ² |
| Cell size ³ | (m) | (cm/s) | (m) | (cm/s) | (m) | (cm/s) |
| 4m | | | | | 325-350 | 30 |
| 8m | | | 520-650 | 30 | 375-400 | 19 |
| 16m | 800-1000 | 30 | 560-700 | 17 | | |
| 24m | 800-1000 | 23 | | | | |

High Precision

| Mode | 38kHz | | 75 kHz | | 150kHz | |
|------------------------|--------------------|------------------------|--------------------|------------------------|--------------------|------------------------|
| Vertical | Max | | Max | | Max | |
| Resolution | Range ¹ | Precision ² | Range ¹ | Precision ² | Range ¹ | Precision ² |
| Cell size ³ | (m) | (cm/s) | (m) | (cm/s) | (m) | (cm/s) |
| 4m | | | | | 200-250 | 12 |
| 8m | | | 310-430 | 12 | 220-275 | 9 |
| 16m | 520-730 | 12 | 350-450 | 9 | | |
| 24m | 730-780 | 9 | | | | |

(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.

Profile Parameters

Velocity long term accuracy (typical):

± 1.0% ± 0.5cm/s

Velocity range: -5 to 9m/s

Number of depth cells: 1-128

Maximum Ping rate:

| 38kHz | 75kHz | 150kHz |
|-------|-------|--------|
| 0.4 | 0.7 | 1.5 |

Bottom Track

Maximum Altitude:

| 38kHz | 75kHz | 150kHz |
|-------|-------|--------|
| 1700m | 950m | 600m |

Precision: <2cm/s

Echo Intensity Profile

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.

Output power: 1000W

Standard Sensors

Temperature (mounted on transducer)

• Range: -5° to 45°C

• Precision: ± 0.1°C

• Resolution: 0.03°

System Power

AC input: 90-250V AC, 47-63 Hz

Power: 1400W

Environmental

Operating temperature: -5° to 40°C

Storage temperature: -30° to 50°C

Options

• External hull mount

• Acoustic window

Software

Use RDI's Windows™-based software for the best results:

• VMDAS — Vessel Mount Data

Acquisition System

• WinADCP — Data Display and Export

Included in a Complete System

User to supply compass input, or GPS navigation data and NMEA tilt information.



38, 75 or 150 kHz transducer



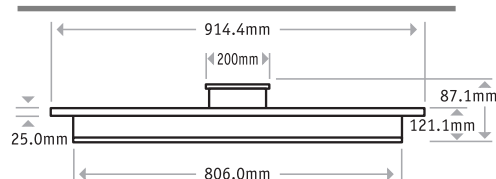
19" rack mount electronic chassis

• All purpose deck box

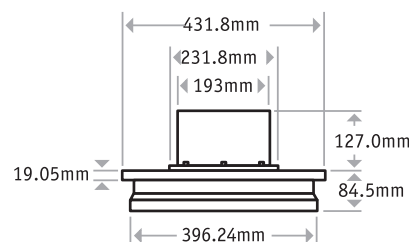
• Gyrocompass interface board

• LCD gyro offset control display

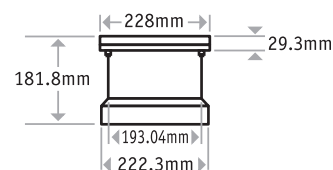
Dimensions



[38 kHz round transducer]



[75 kHz]



[150 kHz]

For More Information

Call, e-mail or visit our web page.

Ask for our Primer about ADCPs.

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