

# Workhorse Mariner

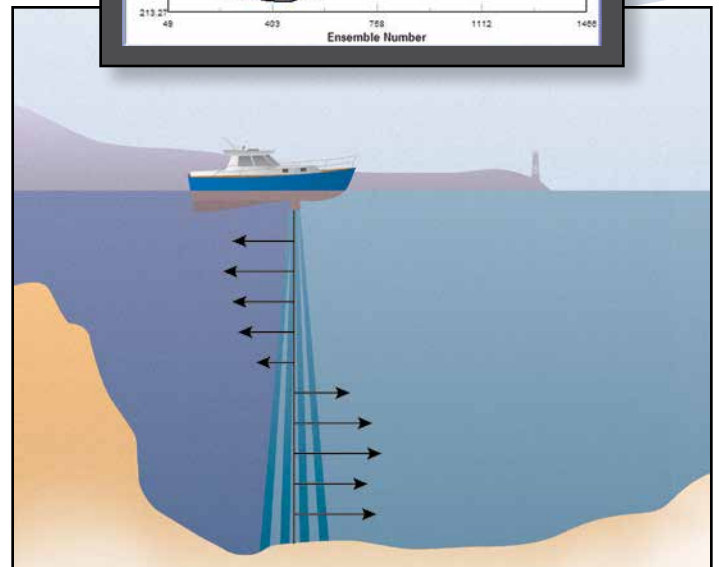
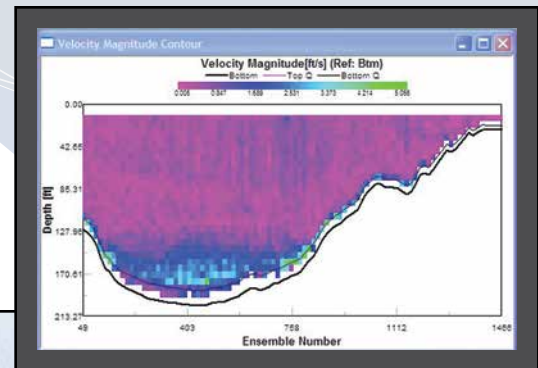
## 300 kHz ADCP

Teledyne RD Instruments' WORKHORSE MARINER Acoustic Doppler Current Profiler (ADCP) has become the instrument of choice for researchers and commercial surveyors working in coastal waters. The Mariner is an accurate, rapid sampling current profiling system designed to operate from a moving boat. The Mariner offers all of the benefits of RDI's traditional Workhorse ADCP products in a compact package designed specifically for coastal hull-mount applications. The unit is easily integrated into the vessel's DGPS input to provide integrated ADCP readings with precise position information.



### PRODUCT FEATURES

- **Convenience:** By installing the Mariner directly in the vessel's hull, the ADCP is always ready to operate—no need for cumbersome mounting tools and hardware, and the unit is safely protected from external elements.
- **Precision data:** Teledyne RDI's BroadBand signal processing delivers very low-noise data, resulting in unparalleled fine track resolution.
- **A four-beam solution:** Teledyne RDI's 4-beam design improves data reliability by providing a redundant data source in the case of a blocked or damaged beam; improves data quality by delivering an independent measure known as error velocity; and improves data accuracy by reducing variance in your data.



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# Workhorse Mariner 300 kHz ADCP

## TECHNICAL SPECIFICATIONS

<b>Water Profiling</b>	Depth Cell Size <sup>1</sup>	Typical Range <sup>2</sup> 110 m	
	Vertical Resolution	<b>Range<sup>3</sup></b>	<b>Std. Dev.<sup>4</sup></b>
	0.5 m	see note <sup>1</sup>	
	1 m	83 m	14.0 cm/s
	2 m	93 m	7.0 cm/s
	4 m	103 m	3.6 cm/s
	8 m	116 m <sup>2</sup>	1.8 cm/s
<b>Long Range Mode</b>	8 m	154 m	3.7 cm/s
<b>Profile Parameters</b>	Velocity accuracy	0.5% of water velocity relative to ADCP ±0.5 cm/s	
	Velocity resolution	0.1 cm/s	
	Velocity range	±5 m/s default, ±20 m/s max	
	Number of depth cells	1–255	
	Ping rate	2 Hz (typical)	
<b>Bottom Track Parameters</b>	Max. Altitude	253 m	
	Min. Altitude	2.0 m	
	Range Accuracy	±2% actual range <sup>5</sup>	
<b>Echo Intensity Profile</b>	Vertical resolution	Depth cell size, user configurable	
	Dynamic range	80 dB	
	Precision	±1.5 dB	
<b>Transducer and Hardware</b>	Beam angle	20°	
	Configuration	4-beam, convex	
	Tilt sensor range	15°	
	Transducer face material	Polyurethane	
	Standard depth rating	200 m; optional to 500 m, 6000 m	
	Internal memory	Card not included	
	Communications	Output format is RS-232, ASCII or binary output at 1200–115,200 baud	
	<b>Environmental</b>	Operating temperature	-5° to 45°C
Storage temperature (without batteries)		-30° to 60°C	
Weight in air		10.7 kg	
Weight in water		8.1 kg	
<b>Software</b>	TRDI's Windows™-based software included: <b>VMDAS</b> —Vessel Mount Data Acquisition System; <b>WinADCP</b> —Data Display and Export; <b>Velocity</b> for advanced post-processing		
<b>Power</b>	External DC input	20–50 VDC	
	Teledyne RDI Deck Box Input	90–250 VAC or 12–50 VDC	
	Teledyne RDI Deck Box Output	48 VDC	
<b>Standard Sensors</b>	Temperature (mounted on transducer)	Range -5° to 45°C, Precision ±0.4°C, Resolution 0.01°	
	Tilt	Range ±15°, Accuracy ±0.5°, Precision ±0.5°, Resolution 0.01°	
	Compass (fluxgate type, includes built-in field calibration feature)	Accuracy ±2°, Precision ±0.5°, Resolution 0.01°, Maximum tilt ±15°	
<b>Dimensions</b>	311.1 mm wide x 217.4 mm long ( <i>line drawings available upon request</i> )		

1 User's choice of depth cell size is not limited to the typical values specified.

2 Longer ranges available.

3 Profiling range based on temperature values at 5°C and 20°C, salinity = 35ppt.

4 BroadBand mode single-ping standard deviation (Std. Dev.).

5 Excludes errors introduced by changes in speed of sound profile, by tilting of transducer, and by slope of bottom.

6 <±1.0° is commonly achieved after calibration.



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