



SeaTRAK HF



Photo by: Tom Reis,
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High Frequency
300 kHz / 600 kHz / 1200 kHz



The Rowe Technologies **SeaTRAK HF** (*High Frequency*) family of Vessel-Mounted ADCP's represent the industry's state of the art in acoustic Doppler technology. The compact form factor and powerful electronics provide a versatile platform capable of producing precise bottom-referenced velocity, current profile measurements, and echo intensity measurement. **SeaTRAK HF** is available in three frequencies: 300 kHz, 600 kHz, and 1200 kHz.

Each unit in the family uses a common core set of electronics in a flexible form factor. With a removable hull mounting adapter ring, and a versatile power and communications interface box, **SeaTRAK HF** provides a cost-effective, extremely capable instrument to address a wide variety of oceanographic coastal survey applications and vehicle navigation. **SeaTRAK HF** can be fitted directly to the hull, used in a moon pool or temporarily mission-deployed over the side.

SeaTRAK's user-selectable signal processing functions provide excellent temporal, spatial, and velocity resolution and precision. User-programmability features provide capability that is particularly useful in variable depths and near shore applications. Multi-modes such as Broadband, Narrowband, Pulse Coherent, and Vessel Tracking provide many different field collection options. The ability to interleave up to 12 independent missions allows simultaneous collection of long range and high resolution data in a single data file. GPS position, speed and heading information can be directly integrated into the data field to ensure lifetime data integrity.

The **SeaTRAK HF** ADCP's are well-suited for a variety of coastal and continental shelf oceanographic applications such as current surveys, plume tracking, renewable energy site surveys, coastal engineering and port/harbor verification studies. Rowe systems are easily integrated into the shipboard environment for long-term vessel operations.



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Product Features:

- Multi-Use Configurations: 3-Axis Current Profiles, Bottom Track or Water Track Velocity, as well as Echo Intensity Profile, Broadband, Narrowband, and Pulse to Pulse Coherent modes.
- Industry Standard Serial Data Interfaces: RS232, RS422, RS485 and/or Ethernet.
- User-Programmable Operation -- Signal processing options optimize acquisition parameters for precise high-accuracy measurements.
- Direct GPS Heading, Speed, and Position integrated into raw data.
- 3rd Generation ROWE Technologies Electronics.
- High Accuracy Velocities:
 - ± 0.7% for 300 kHz.
 - ± 0.25% for 600/1200 kHz.
- Heading: Fluxgate +/- 1° Accuracy.
- Internal data storage eliminates need for dedicated computer.
- Deckbox interface chassis for convenient wiring.

Product Options:

- Bronze Adapter ring for direct hull mounting.
- Dual Frequency options available:
 - 300 kHz/1200 kHz, 300 kHz/600 kHz, 600 kHz/1200 kHz.



Electronics Orientation

Horizontal -- or -- Vertical

SeaTRAK HF Specifications

Single Frequency (nominal):	300KHz	600KHz	600KHz	1200KHz
Piston Ceramic Size:	3 in	3 in	2 in	2 in
Beam widths [2 way]:	2.70°	2.00°	2.00°	1.01°
Beam Spacing:	4 beams inclined 20°			
Velocity Range:	+/- 20 m/s Max; +/- 5 m/s Typical			
Resolution:	0.01 cm/s			
Number of Cells:	up to 200			
Cell Size:	2.0 cm minimum			
Current Profiling:				
Maximum Range:				
Narrowband:	150 m	75 m	70 m	30 m
Broadband:	100 m	50 m	45 m	20 m
Long-Term Accuracy (High Accuracy Option):	±0.70% ± 2mm/s			
Long-Term Accuracy (Low Accuracy Option):	+/-1.0%, +/- 2 mm/s			
BB Single-Ping Precision:	3.5 cm/s @ 4 m cell depth	3.5 cm/s @ 2 m cell depth	3.5 cm/s @ 1 m cell depth	3.5 cm/s @ 1 m cell depth
NB Single-Ping Precision:	20 cm/s @ 4 m cell depth	20 cm/s @ 2 m cell depth	20 cm/s @ 1 m cell depth	20 cm/s @ 1 m cell depth
Data Output Rate:	1-2 Hz typical; 10 Hz max			
Bottom Tracking:				
Maximum Range:	300 m	130 m	120 m	50 m
Maximum Bottom Track Speed:	15 m/s			
Long-Term Accuracy (High Accuracy):	± 0.70% ± 2 mm/s			
Long-Term Accuracy (Low Accuracy):	+/-1.0%, +/- 2 mm/s			
Single-Ping Precision:	± 0.6 cm/sec @ 3 m/sec	± 0.5 cm/sec @ 3 m/sec	± 0.5 cm/sec @ 3 m/sec	± 0.4 cm/sec @ 3 m/sec
Resolution:				
Sensors:				
Compass: Range/Accuracy/Resolution:	0-360° / 1°RMS / 0.01°			
Pitch/Roll: Range/Accuracy/Resolution:	Roll +/- 180° / Pitch +/- 90° / <1°RMS / 0.01°			
Water Temp: Range/Accuracy/Resolution:	-5° - 70° C / +/- 0.15° C			
Pressure: Range/Accuracy:	Selectable / +/- 0.10% Range			
Materials Options:	Acetal / Aluminum / Titanium			
Input Power:				
Voltage Range (Ext DC Input):	12 - 36 VDC			
Average Power (5% duty cycle) / Peak Current:	23 W typical	30 W typical	30 W typical	23 W typical
Output Data:				
Communications:	RS-485, RS232, 100Base T /Ethernet (self-contained only)			
Internal Recording:	32 GByte			
Environmental:				
Temperature:	-5° to 45° C (Operating); -30° C to 60° C (Storage)			
Depth Rating:	50m, 300 m, 3000m, and 6000m (600 kHz)			

Specifications may be subject to change at any time in the future.

** In Development