

# Echo

Altimeter / Profiler /  
Echo Sounder

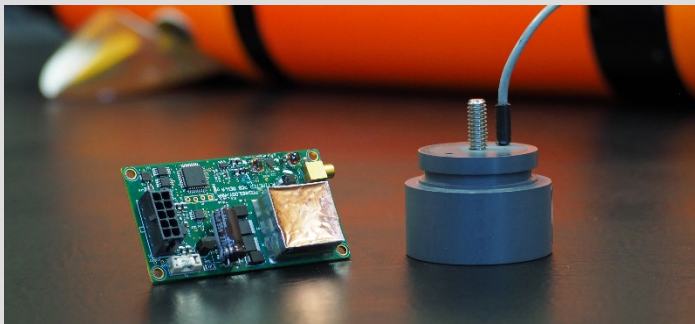
Marine Sonic Technology



## Sea Scan<sup>®</sup> Echo

Ultra Compact Design | ROV & AUV Suitable | Altimeter & Profiler Options

The Echo is an ultra compact single beam sonar designed for small Autonomous Underwater Vehicles (AUVs) and Remotely Operated Vehicles (ROVs). The system's long range and high precision make it an ideal tool for underwater altitude and distance measurement. Further, an imaging version is available that can be utilized for simplified bottom profiling and obstacle avoidance. The modular design of the Echo minimizes the mechanical footprint needed for the system integration and its filtering capabilities reduces noise effects maximizing system performance while using less power. The Echo communicates with the host computer over a RS-232 serial connection in NMEA 0183 format using standard ASCII characters. Designed to complement the ARC Scout Side Scan Sonar, it can also operate independently from its host system.



### Applications

- ROV & AUV Altitude Measurement
- Sub-Sea Ranging
- Touchdown Monitoring of Subsea Structures
- Under-Ice Measurement
- Infrastructure Inspection
- Obstacle Avoidance

### Key Features

- Long Range & High Accuracy
- Compact & Lightweight, and Low Power Consumption
- Low Integration Costs
- Customized Transducers Tailored to Your Application
- Depth Ratings from 300 m to Full-Ocean Depth

### Acoustic Specifications

<b>Maximum Range</b>	100 m / 328 ft
<b>Minimum Range</b>	0.5 m / 1.65 ft
<b>Range Resolution</b>	1.5 cm / 0.6 in
<b>Frequency</b>	540 kHz
<b>Beam Width</b>	6° (two-way)
<b>Pulse Length</b>	12 µs
<b>Transmit Power</b>	< 213 dB @ 1 m
<b>Bandwidth</b>	< 200 kHz
<b>Ping Rate</b>	1.0 to 5.0 Hz
<b>Depth Rating</b>	300 m to 10,000 m / 987 ft to 32800 ft

### Interface Specifications

<b>Control</b>	Isolated RS232 @ 38400 bps (altimeter) or 460800 bps (profiler)
<b>Format</b>	NMEA 0183
<b>Synchronization</b>	Isolated TTL Input

### Electrical Specifications

<b>Input Voltage</b>	12V – 30V DC
<b>Isolator Voltage</b>	3.3V DC – 5V DC
<b>Power Consumption</b>	0.5 W
<b>Peak Current</b>	500 mA

### Mechanical Specifications

<b>Electronic Dimensions</b>	Length 6.9 cm / 2.72 in Width 3.8 cm / 1.50 in Height 1.6 cm / 0.63 in
<b>Transducer Dimensions</b>	Diameter 4.7 cm / 1.85 in Length 3.3 cm / 1.30 in
<b>Weight in air</b>	125 g / 0.275 lbs

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