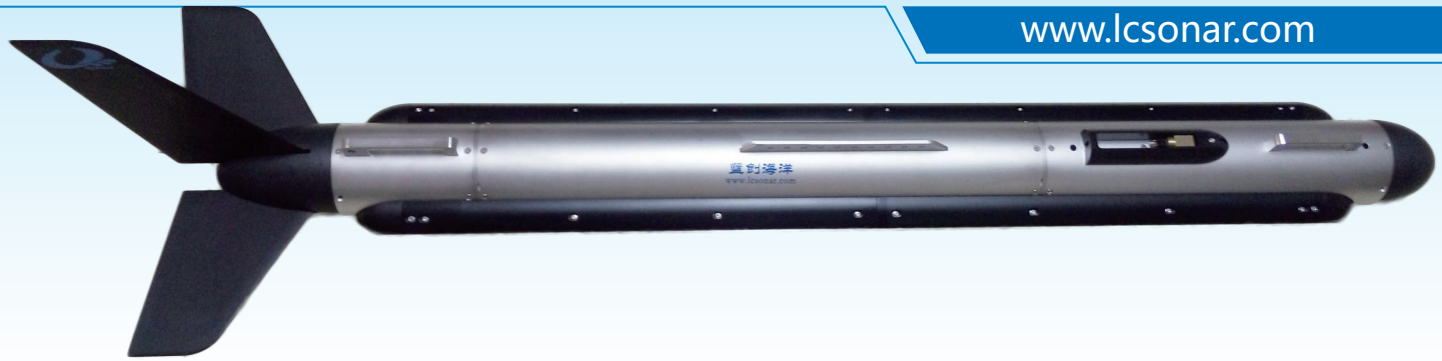
Shark-S457M Multi-beam Side Scan Sonar

www.lcsonar.com



The multibeam side-scan sonar stands as the top-tier product in the side-scan sonar field. Using advanced dynamic focus technology, it significantly improves resolution along the track direction, making it ideal for mine clearance, emergency search and rescue, and small target detection. With an increased maximum operational speed of 12 knots, it greatly boosts survey efficiency. Additionally, in turbid waters or for wide-area scans, the Shark-S457M multibeam side-scan sonar supports a low-speed, dual-frequency mode that can be switched in real-time, achieving an optimal balance between speed and resolution.

The system's core components include a pressure-resistant towfish, a high-strength Kevlar cable, a waterproof deck unit, and proprietary OTech sonar software. The towfish is available in either a 66 kg stainless steel version or a 46 kg carbon fiber version and can be deployed in multiple ways, including towing, hull mounting, or side-mounting. It features a robust and durable structure. To enhance underwater safety, we included an overload protection pin on the towfish that breaks upon impact. Its hydrodynamic design ensures steady towing, and an optional depressor fin enables it to reach greater depths. The system has an ultra-low power consumption design and supports both AC power supply and battery inverter power.

The proprietary OTech software includes features such as real-time image mosaicking, sonar image display, survey line planning and navigation, track tracking and coverage display, data recording and playback, target management and export, and multi-window sensor information display. The sonar image adaptive equalization technology ensures consistent display quality for both near and far images. With minimal parameter settings and a user-friendly interface, the software is easy to operate. It supports output in standard XTF format, enabling processing in third-party software.

ADVANTAGE

- Dynamic Focusing Technology significantly enhances resolution
- High-speed and low-speed dual-mode can switch real-time online, allowing flexible operation mode selection.
- Dual-side 14 beams, capable of towing speeds up to 12 knots.
- Real-time online switching between Chirp frequency-modulated signals and CW continuous wave pulses.
- Built-in motion sensors enable real-time display of the towfish's underwater orientation and position, and trigger an alarm when either exceeds preset limits.
- Built-in independent single-beam echosounder for real-time tracking of towfish height, with an alarm triggered when preset limits are exceeded.
- OTech's proprietary multifunctional software offers free periodic upgrades.

APPLICATION

- Military applications include mine countermeasures and small target scanning.
- Emergency search and rescue, drowning assistance, and recovery operations.
- Maritime channel management, including scanning for sunken ships and lost containers.
- Classification and analysis of marine geological and geophysical surveys.
- Archaeological surveys, including the search for underwater ancient cities and shipwrecks.
- Route surveys for the installation and maintenance of cables and pipelines.
- Seabed topographic surveys for offshore wind and other renewable energy sites.

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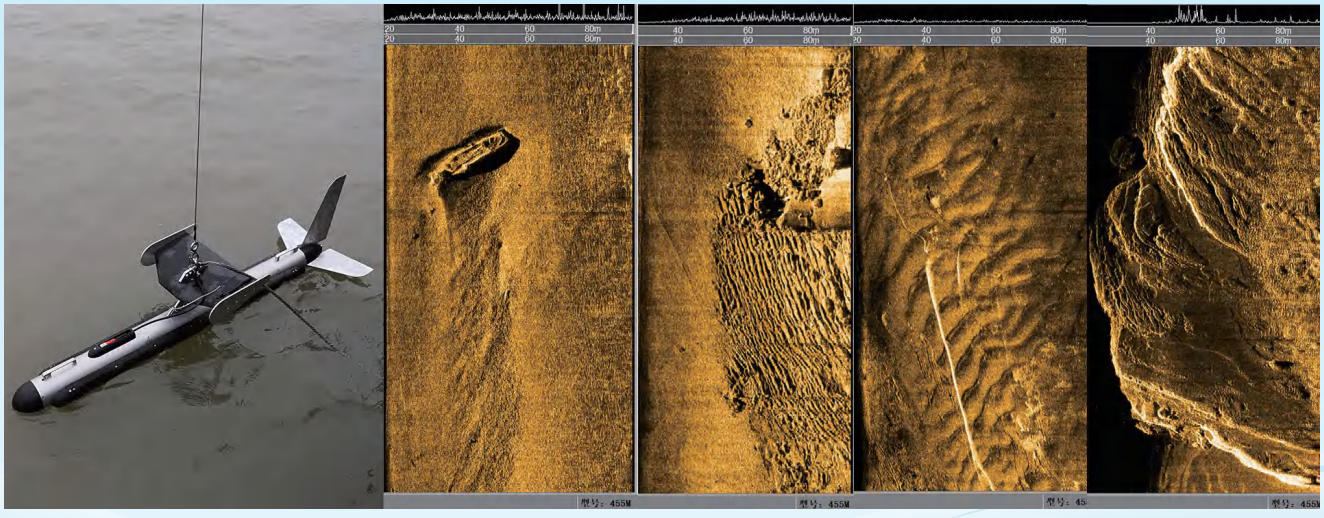
Sonar Specifications	Shark-S457M
Number of Beams	7 beams per side, 14 beams total
Frequency	450kHz (High Speed Mode); 100kHz & 450kHz (Low Speed Mode)
Pulse Type	LFM / CW
Maximum Range	600m @100kHz; 180m @450kHz
Beamwidth	Horizontal: 0.56 ° @100kHz , 0.12 ° @450kHz Verticle: 50 °
Resolution(h-range)	Along Track: 450kHz : 18cm@75m 36cm@150m 100kHz: 0.01h Across Track: 1cm
Depression Angle	Tilted Down 10 °, 15 °, 20 ° Adjustable, preset at 20° degrees from the factory
Depth Rating	2000m
Towfish Size/Weight (air)	2030mm(L)×130mm(Dia.) / 70kg (316 Stainless Steel) or 46kg (Carbon Fiber)
Deck Unit Size/Weight	227mm(L)×192mm(W)×50mm(H) / 1.9kg
Power Consumption	220 /110 VAC , 75W Average
Software OTech	Windows, NMEA 0183 Navigation Data Input OTSS、XTF Output Data Format
Tow Cable	Kevlar reinforced cable, standard length: 100m; 10m towing rope
Standard Towfish Sensors	Echosounder, IMU sensor (pitch, roll, heading), pressure sensor
Operating Speed	2-12 knots (High Speed Mode) ; 2-6 knots (Low Speed Mode)



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