

ARC Scout

Embedded Side Scan Sonar

Marine Sonic Technology



Sea Scan® ARC Scout Mk II

150 kHz to 1800 kHz Options | Transducers Tailored To Your Vehicle

The ARC Scout Mk II is the newest generation of Marine Sonic's embedded side scan sonar specially designed for Autonomous Underwater Vehicles (AUVs) and Remotely Operated Vehicles (ROVs). The Adaptive CHIRP Technology provides the highest imaging quality possible from a side scan sonar and in conjunction with an improved signal-to-noise ratio, supports ranges up to 60 % greater than non-Adaptive CHIRP systems. The Scout Mk II has been designed to increase Area Coverage Rate (ACR) and reduce the overall survey time. With the introduction of selectable Range and Range Delay settings per frequency, the operator gains the ability to acquire high resolution images to the maximum extent of the chosen frequency without sacrificing the range extents of the low frequency channels.



The modular design of the Scout Mk II provides both single frequency and dual frequency options with ultra-low power consumption and reduces the mechanical footprint needed for system integration. To best suit different user applications, frequency options from 150 kHz to 1800 kHz are available. Whereas the 600 / 1200 kHz option provides the ideal compromise between high range and high resolution, the 900 kHz / 1800 kHz option is optimized for applications that require ultra-high resolution imagery for detecting very small targets in the first survey pass. For the detection of larger objects a 150 or 300 kHz low frequency transducer paired with a 900 kHz provides the highest ACR. The system electronics will easily integrate into all small AUV platforms currently on the market and is also available in a watertight pressure case configuration for ROVs. The Scout Mk II comes with ruggedized transducers custom-designed and built to fit your vehicle to reduce your time and effort to integrate the sonar payload. This gets your vehicle in the water faster. The transducers are available for depth ratings from 600 m up to full-ocean depth.

Applications

- Small Object Detection
- Hydrographic / Geophysical Survey
- Civil Infrastructure Inspection
- Terrain Mapping & Obstruction Surveys
- Offshore Infrastructure Inspection
- Cable and Pipeline Surveys
- Archaeological & Biological Surveys
- Mine Countermeasures (MCM)
- Intelligence, Surveillance, and Reconnaissance (ISR)

Key Features

- Dual Simultaneous Frequency Operation
- Adaptive CHIRP Processing
- Compact, Lightweight, and Low Power Consumption
- Excellent Cost-to-Performance Value
- Frequency Options from 150 kHz to 1800 kHz
- Customized Transducers Tailored To Your Vehicle
- Depth Ratings from 600 m to Full-Ocean Depth
- Variable & Modular Design
- Low Integration Costs



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Sea Scan® ARC Scout Mk II

Compact & Lightweight | Low Power | Great Customer Service

Mechanical Specifications

| | |
|-------------------|-------------------------------------|
| Dimensions | Length 12.8 cm / 5.02 in x |
| | Width 5.9 cm / 2.32 in x |
| | Height 2.5 cm / 0.97 in |
| Weight | 195 g / 0.421 lbs in air (per unit) |

Power Consumption

| Input Voltage (12 – 30 V DC) | Single Frequency | Dual Frequency |
|---------------------------------|------------------|----------------|
| 12 V DC | 4.0 W | 6.5 W |
| 24 V DC | 6.5 W | 11.5 W |

Interface Specifications

| | |
|-----------------------|--|
| Control | 10/100 Ethernet, Isolated RS-232 Serial, TTL Sync-In, TTL Sync-Out |
| Data Storage | External via Ethernet (For Internal Storage Options see ARC Scout) |
| File Format | SDS, XTF (with Conversion) |
| AUX Data Input | Latitude, Longitude, SOG, COG, Heading, Depth, Altitude, Roll, Pitch, SOS in NMEA - 0183 |

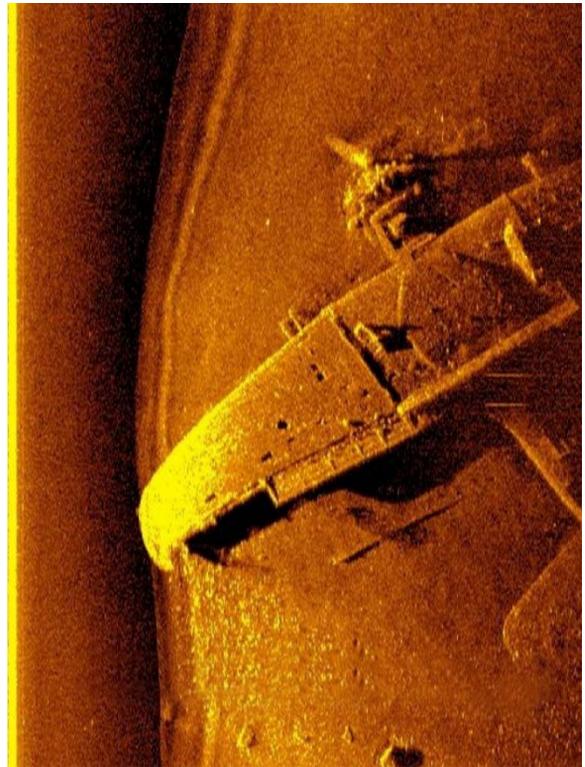
Acoustic Specifications

| | |
|----------------------------------|---|
| Across Track Resolution | 0.4 cm to 1.5 cm |
| Horizontal Beam Angle | 0.4° (one-way), < 0.3° (two-way) |
| Vertical Beam Angle | 24° (two-way) |
| Transmit Pulse Technology | Marine Sonic Technology Adaptive™ CHIRP |
| Transmit Pulse Bandwidth | 50 to 200 kHz |
| Transmit Pulse Length | < 0.5 ms |
| Data Collection Speed | 5.3 Knots Max. (4.7 Knots @ 100 m Range) |
| Depth Rating | 600 m to 10,000 m 1970 ft to 32800 ft |

Frequency Specifications

| Frequency | Max Range (per side) | Along Track Resolution |
|-----------|----------------------|------------------------|
| 150 kHz | 500 m / 1640 ft | 60.8 cm |
| 300 kHz | 250 m / 820 ft | 30.4 cm |
| 600 kHz | 140 m / 460 ft | 15.2 cm |
| 900 kHz | 80 m / 262 ft | 10.0 cm |
| 1200 kHz | 45 m / 148 ft | 7.5 cm |
| 1800 kHz | 25 m / 82 ft | 5.0 cm |

Like all Marine Sonic Technology products, the Scout Mk II comes with the user-friendly and self-explanatory Sea Scan Survey acquisition and review software. Alternately, we offer a Software Development Kit (SDK) which allows UUV manufacturers and third party software developers the ability to control the sonar directly, as well as display data.



The above image of a WW II era Curtiss SC "Seahawk" float plane found off Iceland was taken with the ARC Scout Mk II using 1800 kHz transducers at a 25 m Range. The details of the engine and underside of the aircraft are clearly visible on the wreck.

We Pride ourselves on our Customer Support.

- Free 24hr Tech Support
- Free Software Upgrades
- 3-year limited warranty

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