SeaBat T51-R

Revolutionary combination of high resolution, high frequency and high efficiency

The SeaBat T51-R brings on industry-unique true 800kHz sonar which allows for surveys with the highest level of detail while still maintaining an amazing up to seven times water depth survey efficiency.

Besides the revolutionary 800kHz performance, the SeaBat T51-R also comes with a flexible 350-430kHz lower frequency range – intended for those surveys where extended range performance is required, giving you a truly flexible solution for all occasions.

SeaBat T51-tailored autonomous AI sonar controls, provides reliable data and truly hands-free sonar operation – allowing for higher survey efficiency with reduced operator workload.

Product benefits

- Frequency flexible 700-800kHz sonar array for up to seven times water depth efficiency with extreme resolution to improve your decision making
- 350-430kHz sonar operation for traditional and extended range survey maximising your sonar usage
- Unique Vertical Detection Mode for improved detection along vertical structures
- Autonomous AI Sonar Controls – allowing the operator to focus on other tasks
- Unprecedented clean and ultra-high data quality for faster operational surveys and reduced processing time
- Three-year standard warranty to give you peace of mind

The SeaBat T51-R comes with an optional industry leading fully integrated Inertial Navigation System for accurate sensor time tagging and motion stabilization.

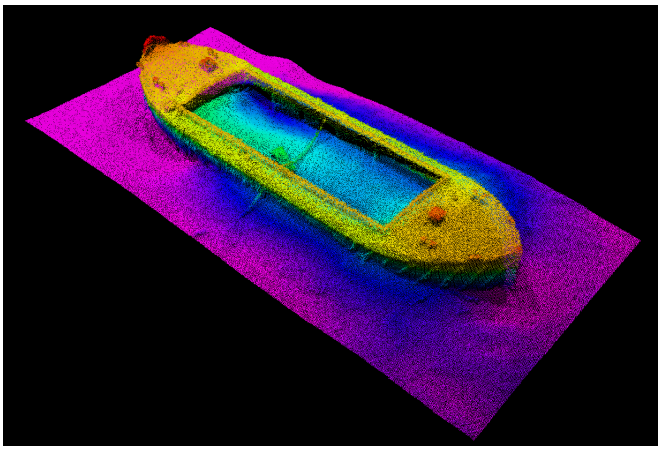
SeaBat T51-R includes:

Rack-mounted Sonar Processor (RSP+)

- Fast mobilization: Single point for all cable connections
- The integrated INS provides accurate sensor time tagging and motion stabilization.
- 25m cable and 2U form factor in standard 19" rack

SeaBat T51 sonar head

- High frequency band 700-800kHz
- Flexible lower frequency 350-430kHz
- Lightweight sonar bracket in robust titanium housing
- Less than 8kg in water



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SYSTEM SPECIFICATIONS

Input voltage:	100-230VAC 50/60Hz
Transducer cable length:	25m (standard) Optional: 10m
Temperature (operational / storage):	Rack-mounted Sonar Processor: -5°C to +45°C / -30°C to +70°C Sonar wet-end: -2°C to +36°C / -30°C to +70°C

	height [mm]	width [mm]	depth [mm]	weight [kg/air]	weight [kg/water]
T51 Rx (EM7222):	102.0	460.0	90.7	8.7	5.3
T51 Tx (TC2186):	88.4	79.0	280.0	4.2	3.0
Rack-mounted Sonar Processor: * Standard 19" rack-mount	88.0 (2U)	478.0*	462.0	12.3-13.8	N/A
Teledyne Type +20/+40 IMU:	123.0	118.0	95.6	3.0	1.6

T51 Acoustic performance:	350-430kHz	700-800kHz
Across-track receiver beam width[1]:	0.5°	0.25°
Along-track beam width[1]:	1°	0.5°
Number of beams:	10 - 1024	
Swath coverage (up to):	10°-170°	
Typical depth (CW[2]):	200 meters	>85 meters
Max depth (CW[3]):	300 meters	Est. >125 meters
Typical depth (FM[2]):	225 meters	>85 meters
Max depth (FM[3]):	350 meters	Est. >150 meters
Ping rate (range dependent):	Up to 50 pings/s	
Pulse length (CW):	30 – 300µs	
Pulse length (FM):	300µs – 5ms	
Depth resolution:	6mm	
Depth rating (sonar head):	50 meters	

Teledyne INS Type +20*:	Roll/Pitch	Heading[4]	Heave[4]	TrueHeave[4]
	0.02°	0.015°	5cm/5%	2cm/2%
Teledyne INS Type +40*:	Roll/Pitch	Heading[4]	Heave[4]	TrueHeave[4]
	0.008°	0.010°	5cm/5%	2cm/2%

Optional postprocessing with POSPac MMS.
Optional Fugro MarineStar®, Trimble CenterPoint RTX

For relevant tolerances for dimensions above and detailed outlined drawings see Product Description
*Optional
[1] Nominal values at 400kHz and 800kHz

[2] This is a depth range within which the system is normally operated, from the minimum depth to a depth value corresponding to the max. swath -50%. Deepest point in primary test area was 85 meters. Swath coverage was ~250m @700kHz and ~175 @800kHz
[3] This is the single value corresponding to the depth at which the swath is reduced to 10% of its max. value. For actual swath performance refer to Product Description. Estimated based on performance graphs
[4] With 4m GNSS base line. Heave 5cm/5% whichever is greater for periods +/- 20sec

T51-R SCOPE OF SUPPLY

- Receiver EM7222
- Projector TC2186
- Rack-mounted Sonar Processor
- 25m receiver cable
- 25m projector cable
- Wet-end bracket
- Nuts and bolt for ease of installation
- Three-year warranty

OPTIONAL EXTRAS

- Integrated INS Type +20 or Type +40
- 10m cable
- Hydrodynamic fairing
- Dual-head bracket
- Teledyne RESON Sound Velocity Probe
- Teledyne PDS Survey Package
- Teledyne RESON Service Level Agreements
- Motion and positioning sensors
- X-Range - improves range and reduces external noise
- Multi-Detect - multiple detections for enhanced detail over complex features and water column targets
- FlexMode – increases data density where you need it most
- Capable of dual head operation with up to 2048 beams

TELEDYNE MARINE
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