SeaBat® T20-R

High resolution Multibeam Echosounder with fully integrated Inertial Navigation System



Superior acoustic quality engineered for the demanding marine environment

The SeaBat T20-R is a new addition to the leading SeaBat product range engineered from the ground up to evolve with your business. Combined with a Rack-mounted Sonar Processor (RSP), SeaBat T20-R provides uncompromised survey data in a highly compact package designed for small vessel use.

The solution includes a range of powerful software features at an attractive price, with the option for future feature expansions to grow with your needs.

The Rack-mounted Sonar Processor comes with an optional industry leading fully integrated Inertial Navigation System for accurate sensor time tagging and motion stabilization.

The SeaBat T20-R is designed for very fast mobilization on any type of survey vessels, securing minimal interfacing and low space requirements.

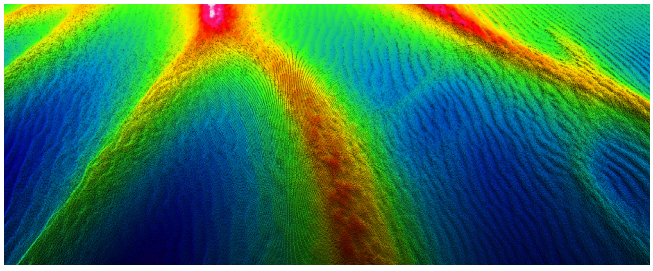
Product benefits

- All-in-one, fully flexible and fully integrated survey system
- The compact system allows for fast mobilization, minimal interfacing and extremely low space requirements
- Impressively clean and high data quality for faster operational surveys and reduced processing time
- Fully frequency agile from 190 to 420 kHz, allowing for improved swath performance and reduced survey time under challenging conditions
- Unique Vertical Detection Mode for improved detection along vertical structures
- The new compressed water column data significantly reduces data volume while maintaining the required information

SeaBat T20-R Standard configuration

Rack-mounted Sonar Processor (RSP)

- Single point for all cable connections – for fast mobilization
- Accurate sensor time-tagging and motion stabilization from the optional integrated INS
- 10m cable configuration
- 2U form factor in standard 19" rack



SeaBat T20, Sandwaves

SeaBat T20 sonar head assembly

- 190 – 420kHz wide-band sonar arrays
- Lightweight sonar bracket
- Robust titanium housing
- Less than 8kg in water

3 years warranty

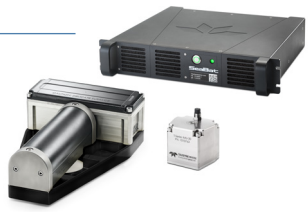
Our hardware is quality-tested to meet the most demanding standards. Backed by the full support of our comprehensive after-sales program and 3 years of warranty, you can be sure that the SeaBat T20-R won't let you down.

PRODUCT DATASHEET

TELEDYNE MARINE

SeaBat® T20-R

High resolution Multibeam Echosounder with fully integrated Inertial Navigation System



SYSTEM SPECIFICATIONS

Input voltage:	100-230VAC 50/60Hz
Transducer cable length:	10m (standard) Optional: 25m or 50m
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]	lenght [mm]	weight [kg/air]	weight [kg/water]
T20 Rx (EM7219):	123	254	102	5.0	2.2
T20 Tx (TC2181):	87	93	280	5.4	3.4
Rack-mounted Sonar Processor: * Standard 19" rack-mount	88 (2U)	478	464	13.8	N/A
Teledyne Type 20/30 IMU:	95	118	95	3.0	0.5

T20 Acoustic performance:	400kHz	200kHz
Across-track receiver beam width[1]:	1° (center)	2° (center)
Along-track beam width[1]:	1°	2°
Number of beams:	10 - 1024	
Swath coverage (up to):	10°-140° Equi distance, 10°-170° Equi Angle	
Typical Depth (CW[2]):	0.5-150 meters	0.5-375 meters
Max Depth (CW[3]):	250 meters	450 meters
Typical Depth (FM[2]):	0.5-275 meters	0.5-550 meters
Max Depth (FM[3]):	375 meters	575 meters
Ping rate (range dependent):	Up to 50 pings/s	
Pulse length (CW):	15 – 300µs	
Pulse length (FM):	300µs – 10ms	
Depth resolution:	6mm	

	Roll/Pitch	Heading[4]	Heave[4]	TrueHeave[4]	Positioning accuracy (with RTK)	Optional:
Teledyne INS Type +20:	0.02°	0.015°	5cm/5%	2cm/2%	Horizontal: +/-(8mm + 1ppm*baseline length) Vertical: +/-(15mm + 1ppm*baseline length)	• Postprocessing POSPac MMS® • Trimble CenterPoint RTX® • Fugro MarineStar®
Teledyne INS Type +40:	0.008°	0.010°				

For relevant tolerances for dimensions above and detailed outlined drawings see Product Description

[1] Nominal values

[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%.

[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.

[4] With 4m GNSS base line. Heave 5cm/5% whichever is greater for periods +/- 20sec

[5] An extinction coverage of +/-20° is observed at about 530 meter water.

T20-R SCOPE OF SUPPLY

- Receiver EM7219
- Projector TC2181
- Rack-mounted Sonar Processor
- 10m Receiver cable
- 10m Projector cable
- Waterproof cable set
- Wet-end bracket
- Nuts and bolts for ease of installation
- 3-year warranty

OPTIONAL EXTRAS

- Integrated INS Type +20 or Type +40
- 25m or 50m cable
- Hydro dynamic fairing
- Dual head bracket
- RESON Sound Velocity Probes
- Teledyne PDS Survey Package
- RESON Service Level Agreements
- Normalized backscatter
- Motion and positioning sensors
- X-Range – improve range and reduce external noise
- Multi-Detect – multiple detections for enhanced detail over complex features and water column targets
- FlexMode – increase data density where you need it most
- Pipe Detection & Tracking – optimize detection of pipes
- Full rate dual head across the entire frequency range

TELEDYNE | RESON

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Specifications subject to change without notice.

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