

SeaBat® T20-S

Subsea multibeam echosounder

The SeaBat T20-S offers superior image quality, engineered for the demanding marine environment and built from the ground up to evolve with your business.

Combined with the Subsea Sonar Processor the T20-S provides the highest quality survey data in a fully integrated sonar processing and data storage unit housed in a subsea pressure vessel. Smaller form factor and reduced operational power to extend mission time for battery powered underwater vehicles. Internal data storage for self-contained survey solution, and interfacing via standard Ethernet to reduce integration time.

Product features

- Tracker – powerful tool for automated control
- Selectable Beam Density – you define what you need to get the job done. Minimize data storage rates to only what you require.
- Multi-Detect - Multiple detections for enhanced detail over complex features and water column targets.

For detailed description see relevant Feature Description document

Optional extra features

- FlexMode – increase data density where you need it most
- X-Range – improve range and reduce the impact of external noise
- Pipe Detection & Tracking – unique to SeaBat, optimize detection of pipes and automated steering of FlexMode sector. (Project Specific)



T20-S sonar head assembly

- 200/400kHz
- Robust titanium housing
- Lower power, smaller form factor

T20-S Standard configuration

- EM7219 Receiver array
- TC2160 (400kHz) Projector
- TC2163 (200kHz) Projector
- Subsea Sonar Processor
- 6000m titanium pressure housing
- 22- 60V DC input
- Wet cable set
- Survey data storage 2.0 TB for approx. 600 hours

Options:

- Wet-end brackets (customized)
- Motion and positioning sensors
- Teledyne RESON Sound Velocity Probes
- Teledyne RESON PDS Survey Package
- Teledyne RESON Service Level Agreements
- Available without pressure housing





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T20 ACOUSTIC PERFORMANCE

	SeaBat T20-S Deep	SeaBat T20-S Shallow	
Sonar operating frequency:	400kHz	200kHz	190-420kHz
Across-track receiver beam width (nominal values ¹):	1° (center)	2° (center)	1°@400kHz, 2°@200kHz
Along-track transmit beam width (nominal values ¹):	1°	2°	1°@400kHz, 2°@200kHz
Number of beams:	Min 10, Max 1024		
Swath coverage (up to):	140° Equi-Distant (170° Equi-Angle)		
Typical range (CW) ² :	0.5-150m	300m	0.5-150m@400kHz, 300m@200kHz
Max range (CW) ³ :	225m	400m	225m@400kHz, 400m@200kHz
Typical range (FM) ² :	0.5-180m	450m	0.5-180m@400kHz, 450m@200kHz
Max range (FM) ³ :	300m	575m	300m@400kHz, 575m@200kHz
Ping rate (range dependent):	Up to 50 pings/s		
Pulse length:	15-300µs (CW) 300µs - 20ms (FM)		
Depth resolution:	6mm		
Depth rating:	6000m	6000m	400m

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

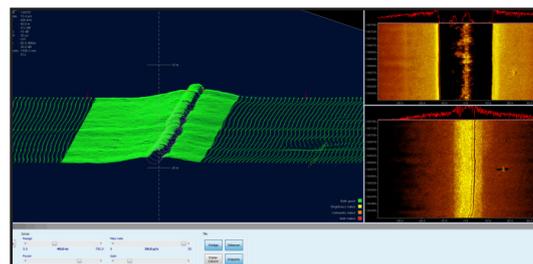
¹ All beam widths measured at -3dB, unsteered with a sound velocity of 1480m/s.

² This is the range within which the system is normally operated. It consists of the minimum range below the sensor to a range value corresponding to max swath -50%

³ This is a single value corresponding to the range at which the swath has reduced to 10% of its maximum value.

POWERFUL FEATURE SET

The systems provides uncompromised data quality combined with a range of powerful software features at an attractive price, with options for future feature expansions to grow with your needs.



T20-S SYSTEM SPECIFICATIONS

Input voltage:	22- 60V DC
Power (approx):	Average 110W. Peak 370W
Transducer cable length:	3m standard (1m, 10m optional)
Temperature (operational / storage):	Subsea Sonar Processor: -2°C to +36°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]
T20 Rx (EM7219):	102.0	254.0	123.0	5.0	4.2
T20 Tx 400kHz (TC2160):	77.0	62.0	285	2.75	1.7
T20 Tx 200kHz (TC2163):	115	100	280	7.5	5.0
Subsea Sonar Processor (with pressure housing):	538	174	n/a	24.4	12.0

For relevant tolerances for dimensions above and detailed outlined drawings see Product Description or contact Teledyne RESON Engineering Services for more information.



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