星天海洋
STARTEST MARINE

GeoBeam12

Deepwater Multibeam Echosounder

Product Overview

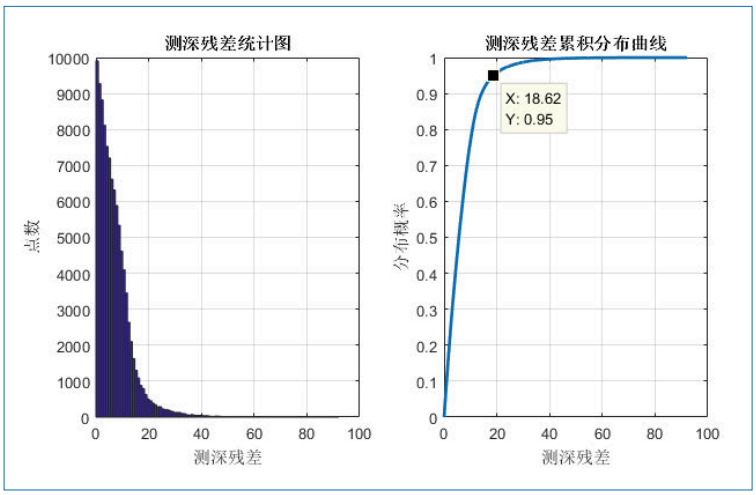
GeoBeam12 is a ship-mounted multibeam echosounder for deep-ocean surveys and engineering. It operates at 12 kHz, covers depths of 20–11,000 m, and supports a 140° swath, 512/1,024 beams, 3-axis stabilization, CW/FM, multiple swaths and dynamic focusing. Water-column imaging, backscatter and raw data output support seabed mapping, deep-sea mining, oil and gas exploration, and wreck recovery.



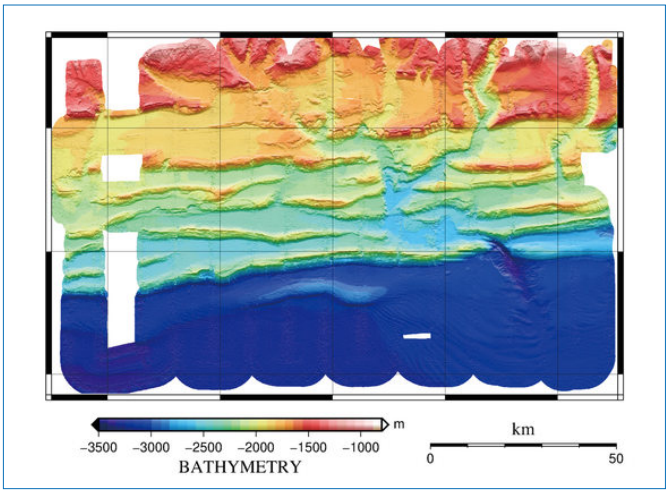
GeoBeam12 Deepwater Multibeam bathymetric system consists mainly of:

> Underwater Acoustic Base > Sound Host > Visibility and reprocessing subsystems > Sensor Subsystem

[Survey Results]

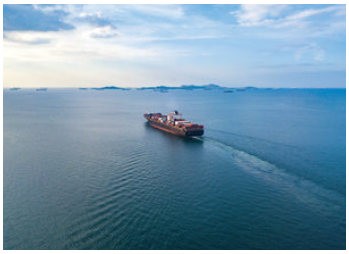


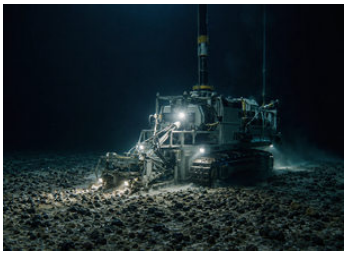
4000 meters deep, overwhelming the bathymetric variation.



"In the Indian Ocean Trench Topography"

[Applications]


Far-reaching sea mapping


Deep-sea mining


Hydrocarbon exploration


Deep sea rescue.

[Technical Specifications] Ocean Surveys

Operating Frequency	12 KHz (10.5-15.5KHz)
Bathymetric range	20 —11000m
Maximum Beam Coverage	140° coverage
Beamwidth	1°x1°; 2°x2°
Beam Detection	Amplitude or phase, adapt.
Pulse Mode	CW and FM, manual or automatic
Bathymetric Accuracy	0.6% water depth (within 140°)
Transmit Ping Rate	Max. 5 Hz
Number of beams	512 beams per single swath, 1,024 per dual swath
Dual Swath	Standard, two swaths per ping
Raw Data	Provide data format protocol
Transmit Control	Multisector launch, dynamic focus.
Transmit Beam Stabilization	Full three-axis attitude stabilization
	Roll: ±15° maximum
	Pitch: ±10° maximum
	Yaw: ±10° maximum

Receive Control	Dynamic near-field focusing
Sonar Image	Display and Data Recording
Water Column Imaging	Display and Data Recording
	Third-party reprocessing software support
	Self-study reprocessing software
Transmit Transducer Array Length	Long 8.2 m
Receive Transducer Array Length	Long 7.3 m
Power requirements	220 V AC ±15%, 50 Hz
The sea resolution follows the course.	≤1°
Vertical Course	≤1°
Visibility software function	Sound speed input
	Sound speed profile correction.
	2D/3D graphic display
	Water Depth Network
	Screen Output and Extension
	Central beam depth output

[Environmental Specifications]

Power requirements	
Launch and receiving system	220 V AC ±15%, 50 Hz
Visibility/navigation computers	220 V AC ±15%, 50 Hz
Reprocessing computers	220 V AC ±15%, 50 Hz
LCD Monitor	220 V AC ±15%, 50 Hz

Pressure resistance.	
Underwater Energy Switcher	Twenty meters of water pressure.

Environmental adaptation	
Operating Temperature	0 ~ +50 °C
Storage Temperature	-20 ~ +70 °C
Relative humidity	5 ~ 95 % Non-cooled condensation

Operational requirements (sea conditions, speed of voyage)	
5 and below	Section 6-8
Normal operations	Maximum speed 12 knots

星天海洋
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www.startest.cn
market@startest.net
+86-15711204676

Beijing StarTest Technology Co., Ltd.
Dongsheng Science & Technology Park, Haidian, Beijing
7F, Bldg. 4, Courtyard 6

Zhejiang StarTest Marine Science & Technology Co., Ltd.
Xiuzhou District, Jiaxing, Zhejiang
Room 01-2, 11F, Bldg. 3, Huayu Center, Xincheng

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