

3100-P SUB-BOTTOM PROFILING SYSTEM

*The portable
solution for high
definition sub-
bottom imaging.*



Standard SB-216S Tow
Vehicle



EdgeTech Model 3100-P
Topside Processor

The EdgeTech 3100-P Portable Sub-Bottom Profiling System is a high-resolution wideband Frequency Modulated (FM) sub-bottom profiler utilizing EdgeTech's proprietary Full Spectrum chirp technology. The system transmits a FM pulse that is linearly swept over a full spectrum frequency range (for example 2-16 kHz for 20 milliseconds.) The acoustic return received at the hydrophones is passed through a pulse compression filter, generating high-resolution images of the sub-bottom stratigraphy in oceans, lakes, and rivers.

Because the FM pulse is generated by a digital to analog converter with a wide dynamic range and a transmitter with linear components, the energy, amplitude, and phase characteristics of the acoustic pulse can be precisely controlled. This precision produces high repeatability and signal definition required for sediment classification.

Several stable, low drag tow vehicles are available that contain wide band transmitter arrays and line array receivers that can operate in water depths up to 300 meters. Selection of tow vehicle depends on the sub-bottom condition on site, the type of features to be imaged, and penetration required.

Features:

- Portable
- High-resolution (4 cm of marine sediment strata resolution with bottom penetration of up to 100 meters)
- Wireless communications with wired Ethernet back-up

Applications:

- EEZ Resource Development
- Geo-technical surveys
- Geological studies
- Hazard surveys
- Environmental site investigations
- Sediment classification
- Mining and dredging surveys
- Bridge and shoreline scour surveys

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Key Specifications

Tow Vehicle	SB- 216S	SB- 424
Frequency Range	2-16 kHz	4-24 kHz
Pulses (user selected)	2-16 kHz, 2-12 kHz, 2-10 kHz	4-24 kHz, 4-20 kHz, 4-16 kHz
Vertical Resolution	6 cm / 2-15 kHz 8 cm / 2-12 kHz 10 cm / 2-10 kHz	4 cm / 4-24 kHz 6 cm / 4-20 kHz 8 cm / 4-16 kHz
Penetration (typical)		
In coarse calcareous sand (meters)	6	2
In clay (meters)	80	40
Beam Width (depends on center frequency)	17° / 2-15 kHz 20° / 2-12 kHz 24° / 2-10 kHz	16° / 4-24 kHz 19° / 4-20 kHz 23° / 4-16 kHz
Size (centimeters)		
Length	105	77
Width	67	50
Height	40	34
Weight	76 kg	45 kg
Cable Requirements	3 shielded twisted pairs (5 used)	
Operating Depth (max)	300 meters (1,000 feet)	
Optimum Tow height	3 to 5 meters above seafloor	
Tow Speed	3-4 knots optimal, 7 knots maximum safe operational	
System Options		

SB-424 tow vehicle

Specifications subject to change without notice.



Optional SB-424 Tow Vehicle

Other EdgeTech Products

✓ Side Scan, Sub-bottom, Integrated and Modular Imaging Systems for Deep Towed, AUV, ROV and Other Applications utilizing Full Spectrum, MultiPing or Synthetic Aperture Acquisition and Processing Techniques.



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