EdgeTech's Buried Object Sonar System (eBOSS)

FEATURES

- 3D sub-bottom SAS processing
- 3+ meter penetration
- 5cm voxel resolution
- 20m to 60m swath width
- Dual 5 kHz to 25 kHz broadband projectors
- Enhanced PVDF receivers
- Real-time & post-processed data
- Full Spectrum CHIRP

APPLICATIONS

- Buried UXO & MCM surveys including non-ferrous targets
- Critical Underwater Infrastructure (CUI)
- Buried pipeline & cable tracking
- Direct depth of burial measurement
- Route surveys
- Environmental site investigations
- Geological surveys

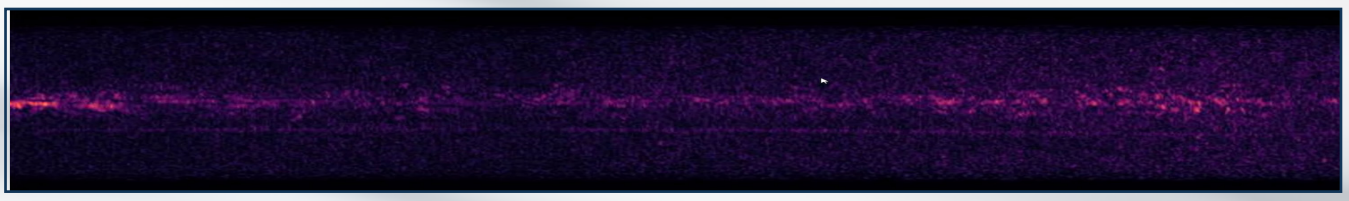
eBOSS is an advanced sub-bottom sonar system capable of penetrating the seabed to accurately detect, locate, classify, and identify buried and partially proud objects. This low-frequency acoustic imaging system provides data in real-time for general survey purposes such as cable & pipeline depth-of-burial tracking and route surveys. Data can also be post-processed utilizing synthetic aperture sonar (SAS) processing and beamforming to render 3-dimensional images of buried objects.

The system utilizes two hemispherical low frequency (5-25 kHz) projectors providing optimal resolution for 3D processing. It can travel at speeds up to 4 knots, with survey swath widths typically ranging from 20 to 60 meters depending on the height the sonar is flown off the bottom. Penetration depths of 3 to 10+ meters can be expected depending on sediment type.

As part of EdgeTech's extensive line of industry-leading Full Spectrum CHIRP sub-bottom profiling sonar systems, eBOSS was originally developed for unexploded ordnance (UXO) detection, including 155 mm howitzer projectiles and smaller objects. The system easily captures larger items such as mine-like objects (MLOs), obstructions, pipelines, cables and other critical underwater infrastructure.

eBOSS is available for custom installations on towed vehicles including the MacArtney FOCUS 3 and Eiva ScanFish, ROVs, AUVs, and ASVs.

24 mm Fiber Optic Cable



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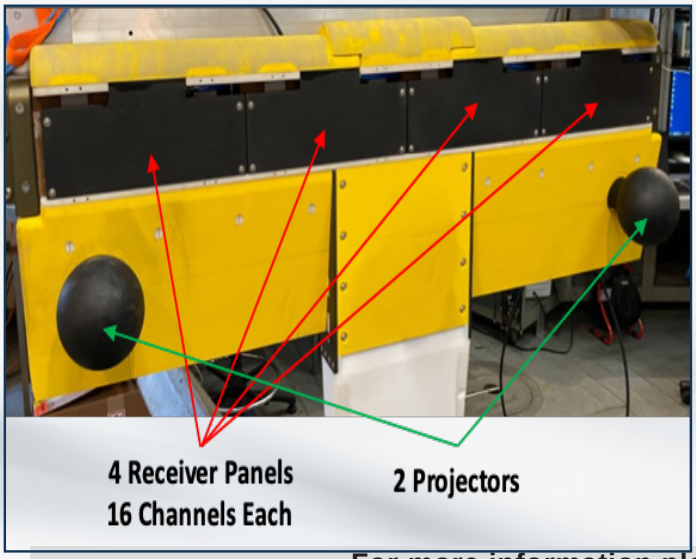
KEY SPECIFICATIONS

SONAR	
Frequency Range / Bandwidth:	5-25 kHz
Penetration in coarse calcareous sand/ rock in silt/mud/clay	~3 m (10 feet) ~10-15 m (30-45 feet)
Resolution (final/resultant) in all 3 dimensions	0.05 m 0.01 m (with additional processing)
Resolution (physical)	Range: ~0.04 m Across-track: ~1.4° Along-track: ~0.03-0.15 m
Swath Width (typical)	~20 m @ 5 m Height Off Bottom (HOB)
Survey Speed	2-4 knots
Max Depth	2000 m
TOPSIDE PROCESSOR	
Hardware	GPU accelerated PC for real-time SAS processing, visualization, and acquisition using EdgeTech and CTI software
Display	Real-Time 3D SAS; top-down and side-view maximum intensity projection (MIP) images
File Format	Native JSF with optional full volume storage
Input/Output	Gigabit Ethernet
Power Input	24 or 48 V
Power Usage (sonar only)	~100 W