

# ECHO<sup>81</sup>

YOUR SUBSEA SOLUTIONS SPECIALIST



## 6205<sup>S2</sup>

MULTI PHASE WIDE SWATH BATHYMETRY  
& SIDE SCAN SONAR

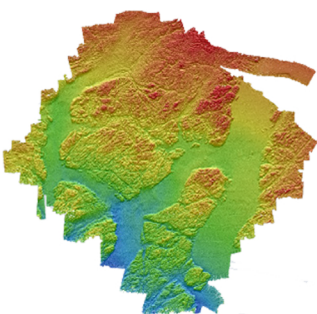
The EdgeTech 6205<sup>S2</sup> is the 4th generation fully integrated Wide Swath Bathymetry and Dual Frequency Side Scan Sonar System that produces real time, high resolution, side scan imagery and three-dimensional maps of the seafloor. The 6205<sup>S2</sup> overcomes the limitations of Multi Beam Echo Sounders (MBES) and Interferometric (Phase Differencing) systems in shallow water by using EdgeTech's unique Multi-Phase Echo Sounder (MPES) technology.



This unique Hybrid approach utilizes multiple receive arrays and combines both Beamforming and Phase Differencing techniques to determine each sounding along the seafloor. With the integration of EdgeTech's Full Spectrum<sup>®</sup> CHIRP technology, the 6205<sup>S2</sup> exceeds IHO SP-44, NOAA, and USACE specifications for Feature Detection and Bathymetric Point Data Uncertainty.

EdgeTech's MPES technology enables the 6205<sup>S2</sup> to produce wider and cleaner swath (over 200°) than current technologies, resulting in superior coverage enabling faster and safer survey completion. At the same time, the 6205<sup>S2</sup> rejects multipath effects, reverberation, and acoustic noise commonly encountered in wide swath high resolution environments.

Additionally, EdgeTech's latest broadband Electronics and Modular Arrays are utilized in the 6205<sup>S2</sup> resulting in a lightweight design, which is required for wide swath high resolution applications and survey platforms of opportunity. The standard configuration for the 6205<sup>S2</sup> includes an integrated Sound Velocity sensor and optional integrated OEM Inertial Navigation System, and interfaces to all popular 3rd Party acquisition and processing software packages, as well as to standard peripheral position/attitude sensors (if needed).



## KEY SPECIFICATIONS

BATHYMETRY				
Sonar Frequency	540 kHz		850 kHz	
Beamwidths*	1° x 0.5°		1° x 0.4°	
Optimal Operating Water Depth**	< 50 m		< 25 m	
Max Swath Width***	200 m		75 m	
Max Swath Sector	200°			
Max Soundings Per Ping	800			
Sounding Patterns	Equidistant and Equiangular			
SIDE SCAN SONAR IMAGERY				
Frequency	230 kHz	550 kHz	850 kHz	1600 kHz
Horizontal Beamwidth (2-way)	0.54°	0.36°	0.29°	0.20°
Range Resolution	30 mm	10 mm	9 mm	6 mm
Max Range**	250 m	150 m	75 m	35 m
SYSTEM				
Pulse Modulation	CW & FM CHIRP			
Ping Rate (Range Dependent)	Up to 60 Hz			
Construction	Polycarbonate and Aluminum			
Sonar Unit Dimensions	L: 72.7 x W: 20.2 x H: 13.9 cm (28.6 x 7.9 x 5.5 in)			
Deck Cable Length	20m (Standard), or custom length to suit USV (unmanned surface vehicle)			
Depth Rating	50 m (165 ft)			
Sonar Unit Weight (In Air)	14 kg (32 lbs)			
19" Rack Mount Top Unit	6 kg (12 lbs)			
19" Rack Mount Unit Dimensions	L: 52.1 x W: 48.3 x H: 8.9 cm (20.5 x 19 x 3.5 in)			
Input Voltage	24-36 VDC or 100/240 VAC (auto sensing)			
Power (Typical / Max)	55W / 70W (Current draw 1.4 amp)			
Software	Included, windows based software, EdgeTech's Discover Bathymetric Acquisition and Sonar Control			
Data Products	Bathymetry, Backscatter, Side Scan Imagery, and Real Time Uncertainties			
* Across track resolution expressed as a beamwidth at nadir				
** Dependent on environmental conditions (i.e. absorption, reverberation, sea noise, etc.)				
*** Assumes a flat seafloor and dependent on environmental conditions				

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### FEATURES & BENEFITS

- Option for integrated OEM Inertial Navigation System
- 4th generation MPES (Multi-Phase) technology
- Co-registered simultaneous dual frequency side scan data
- Bathymetry data which is IHO SP-44 Special Order compliant
- Bathymetry backscatter data
- Motion Tolerant side scan data
- Swath sectors of up to 200° means far shorter time for data collection
- Optimized Bathymetry modes: Equidistant and Equiangular
- EdgeTech's Discover Bathymetric control software
- Integrated sound velocity sensor
- Unrivaled swath coverage and resolution in shallow water when compared to other MBES or PDBS sonar.

### APPLICATIONS

- Nautical Charting / Hydrographic Surveys
- Benthic Habitat Mapping
- Military Rapid Environmental Assessments (REA)
- Cable & Pipeline Route Surveys
- Dredging Operations
- Marine Debris Search
- Port & Harbor Security



### OPTIONS

The following standard frequency configurations are available:

- 540/850 kHz  
(dual freq Side Scan and 540 kHz bathymetry)
- 540/850 kHz  
(dual freq Side Scan with 850 kHz bathymetry)
- 540/1600 kHz  
(dual freq Side Scan with 540 kHz bathymetry)
- 850/1600 kHz  
(dual freq Side Scan with 850 kHz bathymetry)

Note, for 230 kHz side scan sonar the 6205<sup>S</sup> is available:

- 230/540 kHz  
(dual freq Side Scan and 540 kHz bathymetry)

The 6205<sup>S2</sup> is available in two configurations:

- 24-36VDC
- 110/240VAC



Visit our website for more info:  
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