6205

NEXT GENERATION SWATH BATHYMETRY & SIDE SCAN SONAR

FEATURES & BENEFITS
• Next generation MPES technology
• Bathymetry data which is IHO SP-44 Special Order compliant, with full nadir coverage
• Beam average backscatter data
• Co-registered simultaneous dual frequency side scan data
• Motion Tolerant side scan data
• Several standard operating frequency configurations
• Swath sectors of up to 200° means shorter time for data collection
• Equidistant and Equiangle bathymetry data output modes
• EdgeTech’s Discover Bathymetric sonar control software
• Universal MRU mounting point
• Integrated sound velocity sensor
• Unrivaled swath coverage in shallow water when compared to other single head systems.

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

OPTIONS
The 6205 is available in several standard frequency configurations:
• 540 / 1600 kHz (Dual Frequency Side Scan with 540 kHz bathymetry data)
• 540 / 850 kHz (Dual Frequency Side Scan with 540 kHz bathymetry data)
• 230 / 540 kHz (Dual Frequency Side Scan with 540 kHz bathymetry data)
• 230 / 540 kHz (Dual Frequency Side Scan with 230 kHz bathymetry data)

The modular design of the 6205 also allows for multi-frequency bathymetry options in a single sonar head. The field exchangeable array capability allows both shallow and deep water operations.

The EdgeTech 6205 is a fully integrated 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 overcomes the limitations of Multi Beam Echo Sounders (MBES) and Interferometric systems in shallow water by using EdgeTech’s unique Multi-Phase Echo Sounder (MPES) technology. This Hybrid approach combines both Beamforming and Phase Discrimination techniques to determine each sounding along the seafloor. With the integration of EdgeTech’s Full Spectrum® CHIRP technology, the 6205 exceeds IHO SP-44, NOAA, and USACE specifications for Feature Detection and Bathymetric Point Data Uncertainty.

EdgeTech’s MPES technology enables the 6205 to produce wider and cleaner swath (over 200º) than current technologies, resulting in superior coverage enabling faster and safer survey completion. At the same time, the 6205 rejects multipath effects, reverberation, and acoustic noise commonly encountered in shallow water environments.

Additionally, EdgeTech’s latest 2205 Electronics and Modular Arrays are utilized in the 6205, resulting in an extremely lightweight design, which is required for shallow water applications and vessels of opportunity.

The standard configuration for the 6205 includes an integrated Sound Velocity Sensor, and interfaces to most Third-Party acquisition and processing software packages, as well as to standard GPS, MRU, SVP, Gyros, and INS.
# KEY SPECIFICATIONS

## BATHYMETRY

<table>
<thead>
<tr>
<th></th>
<th>230 kHz</th>
<th>540 kHz</th>
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<tbody>
<tr>
<td><strong>Sonar Frequency</strong></td>
<td>230 kHz</td>
<td>540 kHz</td>
</tr>
<tr>
<td><strong>Beamwidths</strong>*</td>
<td>1° x 0.7°</td>
<td>1° x 0.5°</td>
</tr>
<tr>
<td><strong>Optimal Operating Depth</strong></td>
<td>&lt;100 m</td>
<td>&lt; 50 m</td>
</tr>
<tr>
<td><strong>Max Swath Width</strong>*</td>
<td>400 m</td>
<td>200 m</td>
</tr>
<tr>
<td><strong>Max Swath Sector</strong></td>
<td>200°</td>
<td></td>
</tr>
<tr>
<td><strong>Max Number of Soundings</strong></td>
<td>800</td>
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**Sounding Patterns**: Equidistant and Equiangular

## SIDE SCAN SONAR IMAGERY

<table>
<thead>
<tr>
<th></th>
<th>230 kHz</th>
<th>550 kHz</th>
<th>850 kHz</th>
<th>1600 kHz</th>
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</thead>
<tbody>
<tr>
<td><strong>Frequency</strong></td>
<td>230 kHz</td>
<td>550 kHz</td>
<td>850 kHz</td>
<td>1600 kHz</td>
</tr>
<tr>
<td><strong>Horizontal Beamwidth (2-way)</strong></td>
<td>0.54°</td>
<td>0.36°</td>
<td>0.29°</td>
<td>0.20°</td>
</tr>
<tr>
<td><strong>Range Resolution</strong></td>
<td>30 mm</td>
<td>10 mm</td>
<td>9 mm</td>
<td>6 mm</td>
</tr>
<tr>
<td><strong>Max Range</strong>**</td>
<td>250 m</td>
<td>150 m</td>
<td>75 m</td>
<td>35 m</td>
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## SYSTEM

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<tr>
<td><strong>Pulse Modulation</strong></td>
<td>CW &amp; FM CHIRP</td>
</tr>
<tr>
<td><strong>Ping Rate (Range Dependent)</strong></td>
<td>Up to 60 kHz</td>
</tr>
<tr>
<td><strong>Construction</strong></td>
<td>Polycarbonate / 316 Stainless Steel Frame</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>208 x 244 x 759 mm (8.1 x 9.6 x 29.8 in)</td>
</tr>
<tr>
<td><strong>Deck Cable Length</strong></td>
<td>20m (Standard)</td>
</tr>
<tr>
<td><strong>Depth Rating</strong></td>
<td>50 m</td>
</tr>
<tr>
<td><strong>Weight (In Air)</strong></td>
<td>20 kg (44 lbs)</td>
</tr>
<tr>
<td><strong>Input Voltage</strong></td>
<td>48-60 VDC, 115-230VAC</td>
</tr>
<tr>
<td><strong>Power (Typical /Max)</strong></td>
<td>55W / 70W</td>
</tr>
<tr>
<td><strong>Software</strong></td>
<td>Windows based software included EdgeTech's Discover Bathymetric Acquisition and Sonar Control</td>
</tr>
<tr>
<td><strong>Data Products</strong></td>
<td>Bathymetry, Backscatter and Side Scan Imagery, and Real Time Uncertainties</td>
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* 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