

Key Features	Sonic Water MBES	The Sonic Advantage
<p><b>Operating Frequencies</b> R2Sonic has pioneered wideband technology for commercial shallow water MBES.</p>	<p>Wideband - 170 kHz to 450 kHz (Frequency selections to 0.001 kHz between 170-450 kHz in real time)</p> <p>Optional 700 kHz operation</p>	<p><b>Advantage:</b> This allows for greater flexibility with more frequency selections to adapt to your survey environment or avoid acoustic interference. User may select any frequency from 170 kHz to 450 kHz in real-time, and optional 700kHz selection for ultra-high resolution for highest resolution inspection and target investigation applications.</p>
<p><b>Beam Width</b> (across track x along track)</p> <p>Selectable 700 kHz operation.</p>	<p>Dynamically Focused (0.45° x 0.45° (2026) As narrow as 0.3° x 0.6° (2024) and 0.6° x 0.6° (2022) @ 700kHz and 1°x1° (2020) @ 700kHz</p>	<p><b>Advantage:</b> Provides unprecedented narrow beam widths and bottom footprints.</p> <p><b>Dynamically focused beam width provides:</b> The narrowest beam width and bottom footprint of any commercial shallow water MBES for smaller bottom footprints and increased imagery definition over small scale features and targets.</p>
<p><b>Selectable Swath Width and Coverage</b></p>	<p>Up to 160° Selectable From 10° to 160° in real-time.</p>	<p><b>Advantage:</b> Greater flexibility to select swath sector in real-time without loss of data. Extend swath for increased productivity, reduce swath for increased resolution over bottom features.</p>
<p><b>Selectable Swath Sector Rotation Capability</b></p>	<p>Ability to rotate swath +/-70 degrees port or starboard in real-time</p>	<p><b>Advantage:</b> Greater flexibility to rotate swath sector at desired sector angle +/- 70° in real-time without loss of data. Steer the soundings to port or starboard side of vessel to optimize swath for vertical mapping applications such as quay walls, offshore structures, or hazards.</p>
<p><b>Selectable Update Rate</b></p>	<p>Up to 60 Hz</p>	<p><b>Advantage:</b> Increase coverage at increased survey speed, with no data gaps.</p>
<p><b>Number of Soundings</b></p>	<p>Up to 1024 Single, Dual, Quad Modes</p>	<p><b>Advantage:</b> More efficient beam distribution in small bin sizes.</p>
<p><b>Sampling Frequency: Bandwidth: Range Resolution:</b></p>	<p>60,000 samples per second 60 kHz 1.25cm range resolution</p>	<p>Sonic systems provide high bandwidth (60kHz) with system range resolution to 1.25cm. <b>Advantage:</b> Increased imagery definition over small scale features and targets.</p>

Key Features	Sonic Water MBES	The Sonic Advantage
<p><b>Equiangular or Equidistant Beam Spacing</b></p>	<p>Yes</p>	<p><b>Advantage:</b> Equiangular mode is optimal for surveying directly over wrecks or other features where the soundings are concentrated more at nadir.</p> <p><b>Advantage:</b> Equidistant mode is suitable for general surveys with equidistant spaced beams over the selected swath sector.</p>
<p><b>Roll Stabilization</b></p>	<p>Yes, +/- 15°</p>	<p><b>Advantage:</b> Improved system productivity and data uniformity.</p>
<p><b>Pitch Stabilization</b></p>	<p>2020/2026</p>	
<p><b>Topside Processor</b> Elimination of bulky topside processor subject to failure.</p>	<p>Eliminated. Sonar Beam forming done at point of reception, inside sonar head. Compact underwater components weigh 15kg or less in air (2024/2022) and less than 5kg (2020). Compact topside component is only 2.4kg in air.</p>	<p><b>Advantage:</b> Reduces system size, weight, portability and power consumption.</p>
<p><b>Power Consumption</b> Sonic systems have substantially less power draw than other systems.</p>	<p>20W – 2020 35W – 2022 50W – 2024</p>	<p><b>Advantage:</b> Makes them ideal to use when running off battery power including AUV platforms.</p>
<p><b>Modularity</b> With R2Sonic’s modular concept for shallow water multibeam systems, a single topside SIM can be used to operate all R2Sonic systems. The same receiver and projector cable works across platforms. Sonic 2024 and 2022 share same projectors and are interchangeable. All systems share same firmware.</p>	<p>Universal: SIM Cables Projector (2024/2022) Firmware</p>	<p><b>Advantage:</b> The increased modularity can reduce inventory costs and streamlines maintenance and support.</p>
<p><b>Warranty</b> Standard warranty coverage of 3-years for the multibeam echosounder.</p>	<p>3-years 6-years with low cost service plan</p>	<p><b>Advantage:</b> Offers compelling value, service, and support to customers. (R2Sonic now offers 6-years warranty with low cost service plan.)</p>