SONIC 2026
Wideband Multibeam Echo Sounder

Features:

- Focused Beams to 0.5° x 0.5°
- Wideband 170 kHz – 450 kHz
- 90 kHz & 100 kHz Option
- Selectable swath sector 10° to 160°
- Pitch and Roll Stabilization
- Sounding Depth to 600m+
- Embedded processor/controller
- Low Weight, Volume and Power

System Description:

The Sonic 2026 is the most advanced broadband – wideband multibeam sonar of its kind.

With wide selectable operating frequencies between 170 kHz and 450 kHz to 1 Hz resolution, and optional 90 kHz and 100 kHz, with sounding depth capability to 600m or more, the user has unparalleled flexibility to trade off resolution and range and controlling interference from other active acoustic systems.

In addition to selectable frequencies, the Sonic 2026 provides variable swath coverage selections from 10° to 160° the ability to rotate the swath port or starboard in real-time, as well as roll and pitch stabilization.

The Sonar consists of the three major components: a compact and lightweight projector, a receiver and a small dry-side Sonar Interface Module (SIM). Third party auxiliary sensors are connected to the SIM. The sonar data is tagged with GPS time.

The sonar operation is controlled from a graphical user interface on a PC or laptop typically equipped with navigation, data collection and storage applications software.

The operator sets the sonar parameters in the sonar control window, while depth, imagery and other sensor data are captured and displayed by the applications software.

Commands are transmitted through an Ethernet interface to the SIM. The SIM supplies power to the sonar heads, synchronizes multiple heads, time tags sensor data, and relays data to the applications workstation and commands to the sonar head.

The receiver head decodes the sonar commands, triggers the transmit pulse, receives, amplifies, beamforms, bottom detects, packages and transmits the data through the Sonar Interface Module via Ethernet to the control PC.

The elimination of separate processors and interface bottles makes this sonar well suited for AUV installation. Apart from the projector and receiver, the only hardware to be housed on the AUV is an interface board the size of a PC/104 board, Ethernet ports for interface, and the provision of isolated 48V DC power.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Beam Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 kHz</td>
<td>2° x 2°</td>
</tr>
<tr>
<td>200 kHz</td>
<td>1° x 1°</td>
</tr>
<tr>
<td>450 kHz</td>
<td>0.5° x 0.5°</td>
</tr>
</tbody>
</table>

Beam widths at selected frequencies (nadir)
Sonic 2026 Multibeam Echo Sounder

**Systems Specification:**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>170 kHz – 450 kHz</td>
</tr>
<tr>
<td></td>
<td>90 kHz &amp; 100 kHz (optional)</td>
</tr>
<tr>
<td>Beamwidth, Across Track</td>
<td>0.5°</td>
</tr>
<tr>
<td>Beamwidth, Along Track</td>
<td>0.5°</td>
</tr>
<tr>
<td>No. of Beams</td>
<td>256</td>
</tr>
<tr>
<td>Selectable Swath Sector</td>
<td>10° to 160°</td>
</tr>
<tr>
<td>Sounding Depth</td>
<td>600m+*</td>
</tr>
<tr>
<td>Pulse Length</td>
<td>15 µs – 2000 µs</td>
</tr>
<tr>
<td>Pulse Type</td>
<td>Shaped CW</td>
</tr>
<tr>
<td>Ping Rate</td>
<td>Up to 60 Hz</td>
</tr>
<tr>
<td>Depth Rating</td>
<td>100 m</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-10°C to 50°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-30°C to 55°C</td>
</tr>
</tbody>
</table>

**Electrical Interface**

- **Mains**: 90-260 VAC, 45-65 Hz
- **Power Consumption**: 100 W (Sonar Head)
- **Uplink/Downlink**: 10/100/1000Base-T Ethernet
- **Data Interface**: 10/100/1000Base-T Ethernet
- **Sync In, Sync out**: TTL
- **GPS**: 1PPS, RS-232
- **Auxiliary Sensors**: RS-232
- **Deck Cable Length**: 15 m

**Mechanical:**

- **Receiver Dim (LWD)**: 480 x 109 x 190 mm
- **Receiver Mass**: 12.9 kg
- **Projector Dim (LWD)**: 480 x 109 x 196 mm
- **Projector Mass**: 13.4 kg
- **Sonar Interface**: 280 x 170 x 60 mm
- **Module Dim (LWH)**: Sonar Interface
- **Module Mass**: 2.4 kg

**Sonar Options:**

- 90 kHz & 100 kHz Operation
- Snippets/TruePix Imagery Output
- Switchable Forward Looking Sonar Output
- Raw Water Column Data Output
- Integrated Inertial Navigation System
- Integrated Sediment Profiler
- Mounting Hardware & Assemblies
- 4000/6000m Immersion Depth Ratings
- Antifouling Coating Protection

*Max sounding depths depend on environmental conditions

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