High Resolution Multibeam Systems for:

Hydrography

Offshore

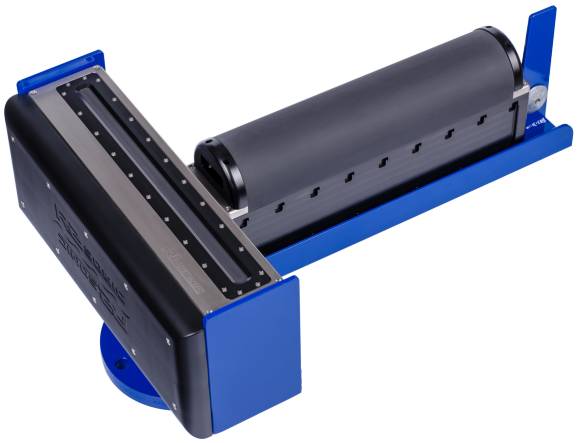
Dredging

Defense

Research

SONIC 2026

Wideband Multibeam Echo Sounder



Features:

- Ultra High Density (UHD) capability*
- MultiSpectral Mode and Pipeline Mode*
- Wideband 170 kHz – 450 kHz
- Optional 90 kHz & 100 kHz
- Beam Widths to 0.45° x 0.45°
- Selectable swath 10° to 160°
- Pitch and Roll Stabilization
- Sounding Depth to 800m+
- 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 k Hz and 450 kHz to 1 Hz resolution, and optional 90 kHz and 100 kHz, with sounding depth capability to 800m 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 to the port or to the 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.

90/100 kHz	200 kHz	450 kHz
2° x 2°	1° x 1°	0.45° x 0.45°

Beam widths at selected frequencies (nadir)

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*Patent Pending: 62/329,631

SONIC 2026 Multibeam Echo Sounder

Systems Specification:

Frequency	170 kHz - 450 kHz with 1 Hz resolution Optional 700 kHz
Beamwidth, Across Track	0.45°
Beamwidth, Along Track	0.45°
Number of Soundings*	Up to 1024 per ping, per head
Selectable Swath Sector	10° to 160°
Sounding Depth**	800 m+
Pulse Length	15 µs – 2000 µs
Pulse Type	Shaped CW
Ping Rate	Up to 60 Hz
Depth Rating	100m, Optional 4000m, 6000m
Operating Temperature	-10° C to 50° C
Storage Temperature	-30° C to 55° C

Electrical Interface

Mains	90-260 VAC, 45-65 Hz
Power Consumption	100 W (Sonar Head)
Uplink/Downlink:	10/100/1000Base-T Ethernet
Sync In, Sync out	TTL
GPS	1PPS, RS-232
Auxiliary Sensors	RS-232, Ethernet
Deck Cable Length	15m, Optional 25m, 50m

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 Module Dim (LWH)	280 x 170 x 60 mm
Sonar Interface Module Mass	2.4 kg

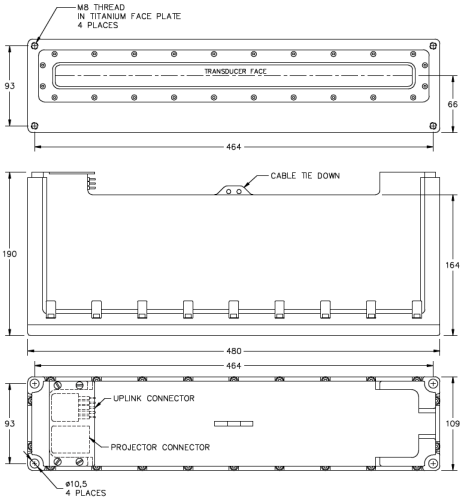
Sonar Options

TruePix™ Imagery Output
90 kHz & 100 kHz Operation
Switchable Forward Looking Sonar Output
Raw Water Column Data Output
I2NS™ Integrated Inertial Nav. System
Mounting Hardware & Assemblies
4000/6000m Immersion Depth Ratings
Antifouling Coating Protection

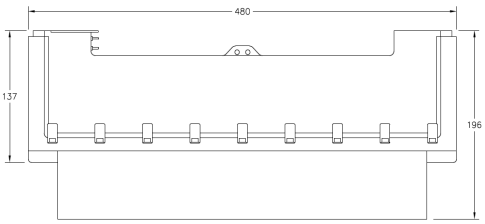
*Limited to 256 soundings at immersion depths > 100m.
Optional no sounding limiter at immersion depth > 100m.
UHD requires the use of R2Sonic control software.

**Max sounding depths depend on environmental conditions

Sonar Interface Module



Sonic 2026 Receiver



Sonic 2026 Projector

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