

SONIC 2024

Broadband Multibeam Echo Sounder

Features:

- 60kHz wideband signal processing
- Selectable frequencies 200-400kHz
- Selectable swath sector 10° to 160°
- Focused 0.5° x 1° beam widths
- 1-500m range
- Embedded processor/controller
- Low weight, volume and power
- Easy installation and operation

Applications:

- Hydrographic Survey
- Offshore Site Survey
- Pre & Post Dredge Survey
- Defense & Security
- Marine Research

System Description:

The fifth generation multibeam architecture networks the modules, and embeds the processor/controller in the sonar head. The processors and bulky custom interfaces that characterize previous generations have been eliminated.

The unprecedented 60 kHz signal bandwidth offers twice the resolution of any other commercial sonar in both data accuracy and image. With a wide operating frequency band of 200 kHz to 400 kHz in 10kHz steps, the user has unparalleled flexibility in trading off resolution and range and controlling interference from other active acoustic systems. In addition to selectable operating frequencies, the Sonic 2024 provides variable swath coverage selections from 10° to 160° which may be changed 'on the fly' in real-time.

The Sonar consists of the outboard projector and receiver modules, and the inboard Sonar Interface Module (SIM). Third party auxiliary sensors (GPS, and SVP) are connected to the Sonar Interface Module. The sonar data is tagged with GPS time.



The sonar operation is controlled from a graphical user interface on a PC or laptop which is 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 Sonar Interface Module. The Sonar Interface Module 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.

The standard data output format is compatible with SeaBat™ 81xx for ease of interface to existing systems. An expanded format will be released as part of a planned firmware update, to incorporate additional features.

Sonic 2024 Multi Beam Echo Sounder

Systems Specification:

Frequency	200kHz-400kHz
Beamwidth, across track	0.5°
Beam width, along track	1.0°
Number of beams	256
Swath sector	Up to 160°
Max Range setting	500m
Pulse Length	10µs-1ms
Pulse Type	Shaped CW
Depth rating	100m
Operating Temperature	0°C to 50°C
Storage Temperature	-30°C to 55°C

Electrical Interface

Mains	90-260 VAC, 45-65Hz
Power consumption	<50W
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	15m

Mechanical:

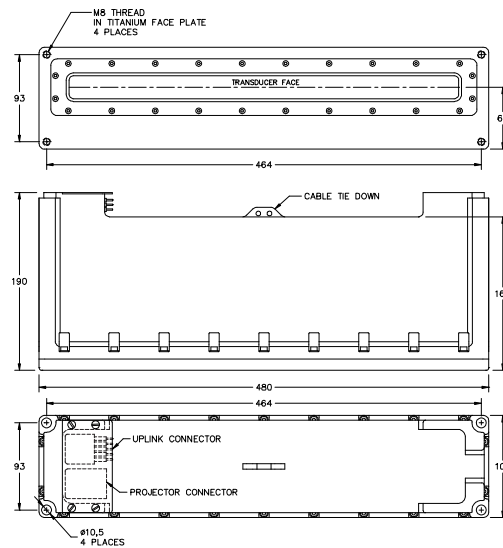
Receiver Dim (LWD)	480 x 109 x 190 mm
Receiver Mass	12 kg
Projector Dim (LWD)	273 x 108 x 86 mm
Projector Mass	6 kg
Sonar Interface	280 x 170 x 60 mm
Module Dim (LWH)	
Sonar Interface	3 kg
Module Mass	

Sonar Options:

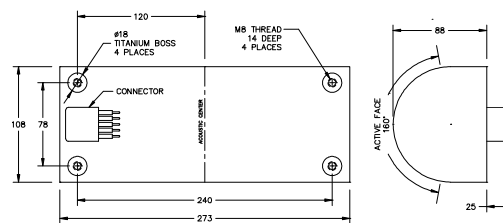
Side Scan & Snippets Imagery Output
 Switchable Forward Looking Sonar Output
 Mounting Frame & Hardware
 Durable Custom Transport Case
 Extended 75m Sonar Deck Cable
 3000m Depth Immersion Depth



Sonar Interface Module



Sonic 2024 Receiver



Sonic 2024 Projector

High Resolution
Multibeam
Systems
for:

Hydrography

Offshore

Dredging

Defense

Research

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