High Resolution Multibeam Systems for:

Hydrography

Offshore

Dredging

Defense

Research

SONIC 2020

Wideband Multibeam Echo Sounder

Features:

- Ultra Compact & Low Cost
- Wideband 200 kHz – 400 kHz
- Optional UHR™ 700 kHz
- Beam Widths to 1º x 1º*
- Selectable swath 10° to 130°
- Sounding depth to 100m+
- Embedded processor/controller
- Low weight, volume and power consumption

System Description:

The Sonic 2020 is the most compact high performance wideband shallow water multibeam echo sounder, suitable for a wide variety of general mapping applications.

The Sonic 2020 provides user selectable operating frequencies between 200 kHz and 400 kHz to 1 Hz resolution and optional 700 kHz, with unparalleled flexibility to trade off resolution and range and controlling interference from other active acoustic systems.

In addition to selectable operating frequencies, the Sonic 2020 provides variable swath coverage selections from 10° to 130°, the ability to rotate the swath port or starboard in real-time, as well as roll and pitch stabilization.

The Sonic 2020 frequency agility, productive swath coverage, high update rate, narrow focused beam widths down to 1º and 60 kHz broadband signal processing provide hydrographic professionals with high quality data output for shallow water survey operations.

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

As with other pioneering Sonic wideband multibeam echo sounders, separate topside processors have been eliminated, dramatically reducing system size, improving system reliability and increasing system efficiency with beam forming done at point of reception.

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 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, beam forms, bottom detects, packages and transmits the data through the Sonar Interface Module via Ethernet to the control PC.

The ultra-compact size, low weight, low power consumption of 22 W and elimination of separate topside processor make Sonic 2020 *ideal* for small survey vessel, ROV or AUV operations.

R2Sonic LLC
5307 Industrial Oaks Blvd.
Austin, TX USA
78735

T: 512 891 0000

www.r2sonic.com

* Beam width to 1° x 1° with UHR 700 kHz option

Sonic 2020 Multi Beam Echo Sounder

Systems Specification:

Selectable Frequencies	200 kHz – 400 kHz to 1 Hz resolution Optional 700 kHz
Beamwidth, Across Track	1.0°*
Beamwidth, Along Track	1.0°*
Number of Soundings	Up to 1024 per swath, per head
Selectable Swath Sector	10° to 130°
Sounding Depth*	100 m+**
Pulse Length	15 µs – 1000 µs
Pulse Type	Shaped CW
Depth Rating	100 m
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	22 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:

Sonar Dimension	140 x 161 x 133.5 mm
Sonar Mass	4.4 kg (in air)
SIM Dimension	280 x 170 x 60 mm
SIM Mass	2.4 kg

Sonar Options:

TruePix™ Imagery Output
Ultra-High Resolution UHR™ 700 kHz
Raw Water Column Data Output
Switchable Forward Looking Sonar Output
I2NS™ Integrated Inertial Nav. System
4000m Immersion Depth Rating
Mounting Hardware & Assemblies
Antifouling Coating Protection

* Beam width to 1° x 1° with UHR™ 700 kHz option
**Max sounding depths depend on environmental conditions

Sonar Interface Module (SIM)

Sonic 2020 Receiver / Projector

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