Seafloor
datasheet

EchoBoat-ASV™
Autonomous Surface Vehicle

The EchoBoat-ASV™ is an autonomous surface vehicle developed for hydrographic survey applications. This is a multi-payload, remotely and autonomously controlled survey platform featuring portability, improved thrust, and large payload capacity.

The vehicle can be monitored while under way, in both Auto and Manual modes, while within line-of-sight range. The mission planner application runs on a base station laptop, connected through a radio telemetry link, and displays the vehicle's graphical positioning and progress against a background map of the survey area. Battery voltag remaining is monitored via this link.

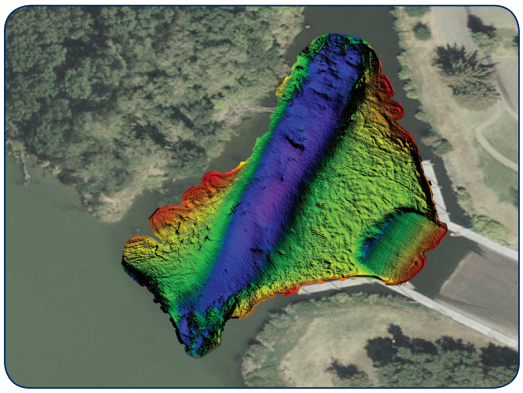
EchoBoat-ASV™ with multibeam sonar and integrated INS/IMU

- ***custom instrumentation to client requirement***
- ***easily switch to remote operation***
- ***access to remote areas***
- ***turnkey operation***

Switching from autonomous to remote control of the survey boat is easy using a high-power remote control system that offers up to 2 km range, with a survey endurance of over eight miles on a single battery pack.

For professional hydrographic survey requirements, the EchoBoat-ASV™ may be speci ied to individual customer requirements. The boat may be purchased with the desired depth sounder pre-installed, or supplied ready to accept existing equipment from the user's survey pool. Similarly, customized cabling can be included allowing the boat to accept existing GPS, GNSS and RTK positioning systems. For a turnkey survey-grade system, the EchoBoat™ is can be outfitted with singlebeam, multibeam, and side scan sonar systems.

The EchoBoat-ASV™ boat is compatible with hydrographic data acquisition software such as HYPACK, PDS2000, and QINSY.


multibeam survey map

mission planner application

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Autonomous Surface Vehicle

vehicle specifications

typical survey speed .....3 kts 1.5 m/s
top speed .....8 kts 5 m/s
hull length .....168 cm 66.14 in
hull width .....79 cm 31.10 in
payload .....85 lbs 38.5 kg
battery.....2x 16v 32 Ah battery
power .....14 - 26 VAC
battery endurance–survey speed .....8-12 hrs at 27 km approximately
motor .....2x brushless thruster
hull material .....UV resistantHDPE
hull weight (empty).....23kg 46lbs
hardware .....stainless steel
r/c control .....Futaba 2.4GHz controller
remote antenna.....Omni Directional
remote range.....2,000m
gps .....Customer specified
communications .....2.4 GHz UHF telemetry
depth sounder transducer .....through hull mount

instrumentation

sonar modules
multibeam echosounder
singlebeam echosounder
ADCP
side scan sonar

gps
RTK/GNSS
DGPS

auxiliary sensors
sound velocimeter
sound velocity profiler
CTD
wi-fi remote desktop

Wi-FI Specs:
Frequency(Tx/Rx): 2.4 GHz
Output power: Nominal 200mW; max 500mW
Band: SHF ISM (neither AM nor FM, different technology)
Standard: IEEE 802.11

MavLink Specs:
Frequency: 915Mhz FHSS (frequency hopping spread spectrum)
Output power: Nominal 20mW, Max 100mW
Band: FM
Standard: FCC approved for civilian use

AutoNav™ Control System

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