



Seafloor

datasheet

EchoBoat-RCV-G2™

Remotely-Controlled Survey Vehicle
with **Autonomous** Option

The EchoBoat-RCV-G2™ is a portable, remotely controlled survey platform developed for hydrographic survey applications. The multi-payload vehicle features portability, improved thrust, and large payload capacity. It is manufactured from high quality marine materials and components and easily disassembles for transport and shipping.

Work environments include mines, sewage treatment plants, rivers, contaminated lakes, ponds, and harbors.

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 8 hours at a survey speed of 3 knots on a single battery pack.

With our AutoNav™ option, the EchoBoat is also fully autonomous; the vehicle can be monitored while under



EchoBoat-RCV with WiFi antenna



Light-weight and 2-man portable



Powerful differential thrusters for maneuverability

way, in both Auto and Manual modes using GPS position and heading available in real time on the shore via RF telemetry.

The mission planner application runs on a base station laptop connected through a radio telemetry link, and displays the vehicle's graphical position and progress against a background map of the survey area. Battery voltage, current, and capacity remaining is monitored via this link.

For professional hydrographic surveying, the EchoBoat may be customized to individual customer requirements. The boat

- ▶ **Custom instrumentation to client requirement**
- ▶ **Easily switch to remote operation**
- ▶ **Access to remote areas**
- ▶ **Turnkey operation**
- ▶ **Optional Auto Pilot module**

may be purchased with the desired depth sounder pre-installed, or supplied ready to accept the user's existing sensors. 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 can be outfitted with singlebeam, multibeam, and side scan sonar systems.

The EchoBoat is compatible with hydrographic data acquisition software such as HYPACK, HYDROpro, QINSY, and uses the standard NMEA data format for data interface.



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specifications

| | |
|-------------------------------|--|
| Typical survey speed | 3 kts / 1.5 m/s |
| Top speed | 10 kts / 19 Km/hr |
| Hull Width | 81 cm / 32 in |
| Hull Length | 168 cm / 66 in |
| Battery Endurance | 8 hours |
| Payload | 34 kg / 75 lbs |
| Power | 2x 16v 32 Ah battery LiPo |
| Motor | 2x brushless thruster |
| Hull Material | UV resistant HDPE |
| Steering | Differential |
| Weight | 31.3 kg / 69 lbs |
| Hardware | Stainless steel |
| R/C | Futaba® 2.4GHz long range |
| Remote Range | 2 km |
| Communications | Bluetooth radio modem or 900 MHz spread spectrum radio modem |
| Depth Sounder Transducer..... | Through hull mount |



Transducer well and AutoNav™ shown in the EchoBoat hull

instrumentation options

- Sonar
 - Multibeam echosounder
 - Singlebeam echosounder
 - Dual Frequency echosounder
 - Acoustic Doppler Current Profiler (ADCP)
- GPS
 - RTK/GNSS
 - Differential GPS
- Auxiliary
 - Sound Velocimeter
 - Sound Velocimeter Profiler (SVP)
 - CTD Instrument
 - WiFi remote desktop
- Auto Pilot Module
 - AutoNav™ Control System
 - Embedded GPS and Compass
 - Built-in Telemetry System
 - PC laptop
 - Mission Planner Application
 - USB Radio Telemetry



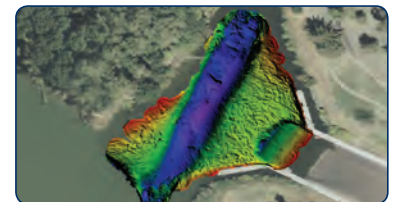
AutoNav™ Control System



Multibeam Sonar on EchoBoat



Mission Planner application installed on a PC laptop showing preplanned survey



Survey data collected through Mission Planner on PC laptop

Seafloor Systems, Incorporated

4415 Commodity Way, Shingle Springs, CA 95682 · USA
(530) 677-1019 · info@seafloorsystems.com · www.seafloorsystems.com