

# HydroBoat 1200

Multi-Purpose USV Platform for  
Hydrographic Surveys and Monitoring



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HydroBoat 1200—an embodiment of compactness and ease, tailored for seamless operation across a spectrum of equipment.

Enhanced by professional CFD technology, its stability finds new heights. Melded with high-precision single-beam echo sounder, GNSS directional positioning receiver, and an advanced intelligent boat-control system, it deftly serves varied water operational demands.

Augmented safety through embedded IMU, 360° pan-tilt camera, and millimeter-wave radar fortifies its attributes comprehensively. This autonomous vessel, which can be mounted with leading ADCP, side-scan sonar, dual-frequency sounder, multi-parameter water quality meter, and more, stands poised as the quint-essential partner for tasks encompassing current measurement, bathymetry, underwater survey, and water quality assessment.

## Features

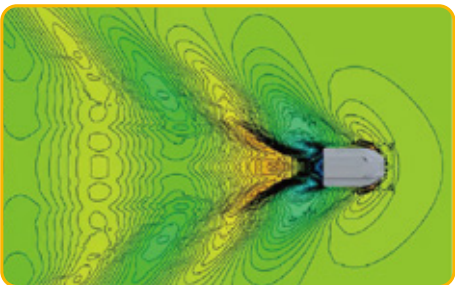


### *Adaptive Water Flow*

Precise hovering and efficient trajectory tracking. No fear of waves and wind. Follow predefined path with accuracy even in challenging environment.

### *New INS Combination Algorithm*

Measure changes in velocity and orientation, and able to solve the accurate position information in GNSS-blocked areas to complete the planned work.



### *Stability by Design*

Hydrodynamically efficient design for the USV's intended operations, guided by CFD simulation, enhances hull stability and noise reduction under varied water conditions and loads.

## Portability

1. 25 kg lightweight hull
2. 1185 mm small size hull
3. Multi-function Android boat control software



## Versatility

1. 240 mm large moon pool
2. Supporting transparent data transmission
3. Reaching maximum boat speed of 6 m/s for efficient movement

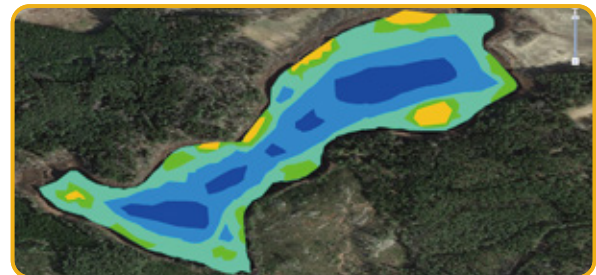
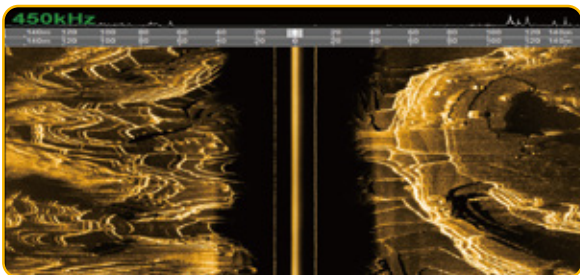
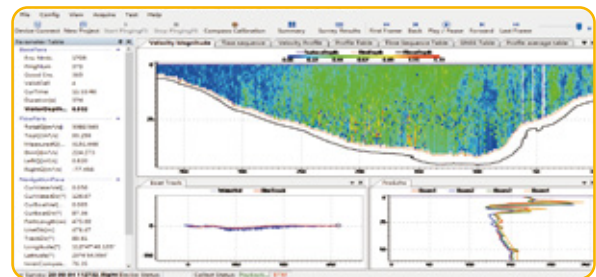
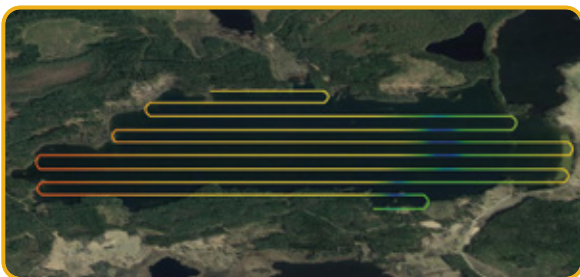


## Safety

1. 360° PTZ camera
2. Millimetre wave obstacle avoidance radar
3. Smart battery management platform



# Applications



# Specification

## Vehicle Specifications

Hull dimension (L x W x H)	1185 mm*593 mm*397 mm
Weight	25kg(No Battery)
Max Load	25kg
Material	Carbon fiber, rubber bumper
Anti-wave & Wind	3rd Wind Level & 2nd Wave Level
Waterproof	IP67
Indicator light	Two-color light
Camera	360° omnidirectional video
Anticollision sensor	Detection distance 10-30 meters
Propeller	2*Brushless Propeller
Direction control	Veering without steering engine
Maximum speed	6m/s
Battery endurance	One battery 4.5h with 1.5m/s, total 2 batteries

## Controller

System	Android System
Software	SLHydro USV
Control range	1.3km on 2.4GHz; Unlimited on 4G

## GNSS Performance

Satellite system	GPS, BDS, GLONASS, Galileo
RTK Positioning accuracy	H: ±8mm + 1 ppm RMS V: ±15mm + 1 ppm RMS
Heading accuracy	0.2° @1 m baseline
INS accuracy	2.1°/h, <1m/20s
Refresh Rate	200Hz

## Built-in Single Beam Echo Sounder

Depth range	0.15m - 200m
Accuracy	±0.01 m + 0.1% x D (D is the Depth of Water)
Frequency	200 kHz
Beam angle	5±0.5°

## Software

SLHydro USV (Android controller)	Mission planning, Vessel Monitoring, Coordinate conversion
	Bathymetric data acquisition, Bathymetric data download
SLHydro Sounder (Windows system)	Bathymetric data processing, Bathymetric data correction
	Bathymetric data export

## Expandable Sensors

Acoustic Doppler Current Profiler
Single Beam Echo Sounder
Side-scan Sonar
Multi-parameter Water Quality Meter



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