

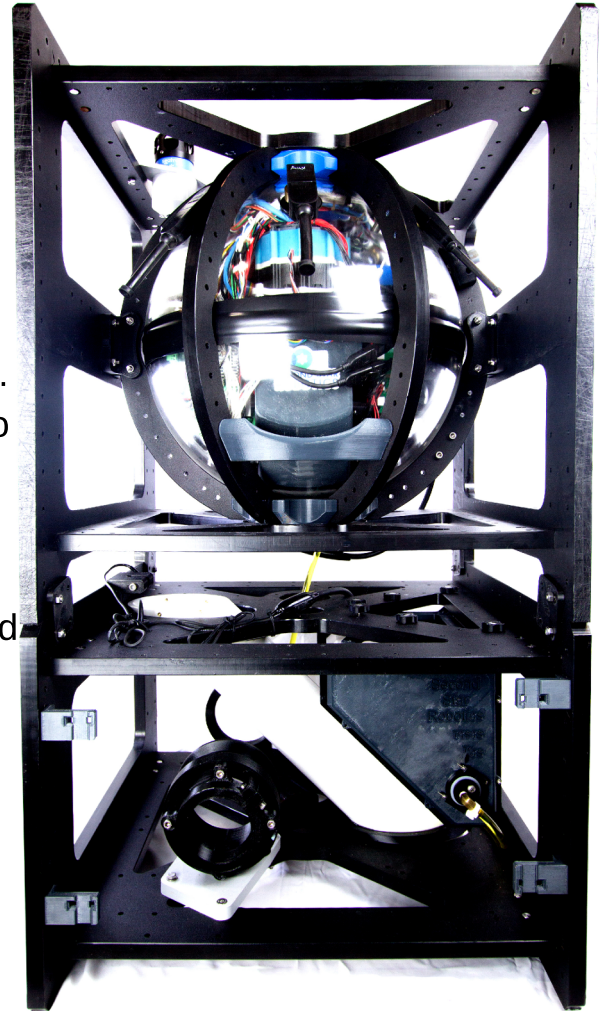
SECOND STAR ROBOTICS

Product Description

A buoyancy-controlled sensor platform for pelagic survey applications. Designed with system integrators in mind, this versatile unit is equipped with a compact reciprocating buoyancy engine, capable of adjusting the platform's volume by 3.5 L. This allows hovering and profiling at depths of up to 2000 m.

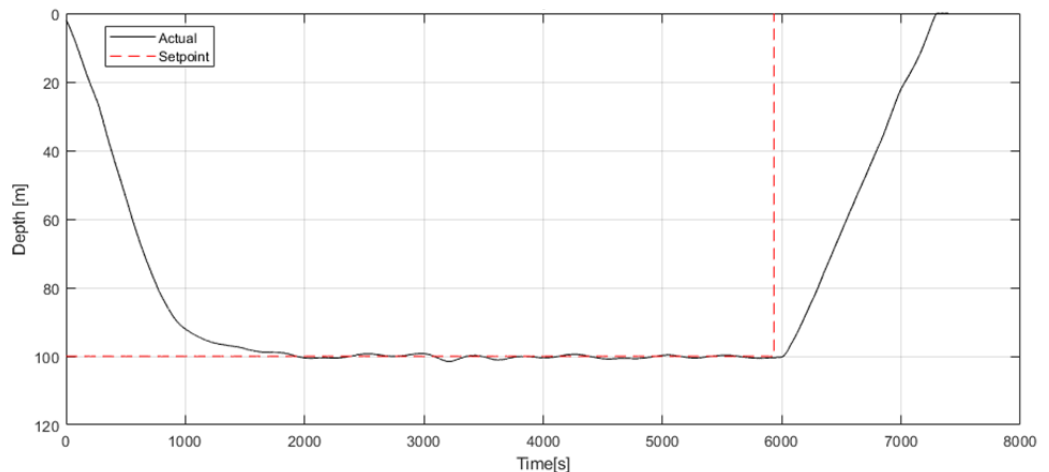
The platform can be pre-programmed to profile various depths and return to the surface at specified intervals. Seamless integration with the BluePrint SeaTrac modem/USBL ensures accurate surface tracking and control. The platform boasts an auxiliary sensor DAQ system, enhancing its data logging capabilities, sensor duty cycling and RTCC timestamp sample synchronization.

DRIFTER GENERAL PURPOSE SENSOR PLATFORM

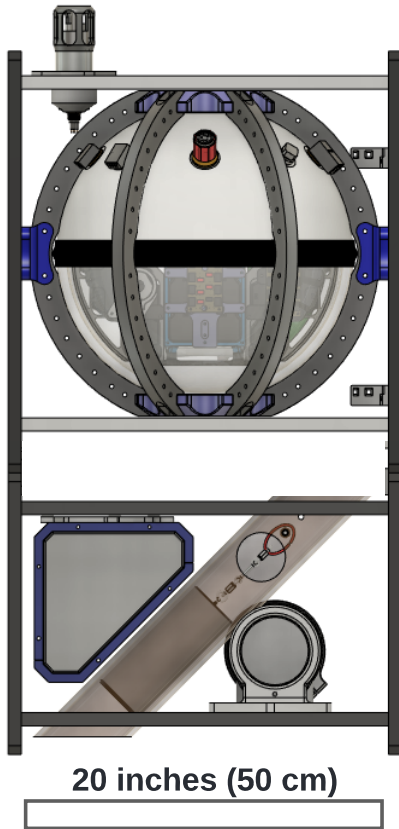


Precision Control

Precise depth and velocity control allow sampling with programmable hibernation modes reducing power consumption and maximizing endurance.



PLATFORM SPECIFICATIONS



General Information	
Product Name	General Purpose Drifter Platform
Use Cases	Active acoustics, passive acoustics, camera sampling, CTD profiling, eDNA, bottom surveys
Physical Specifications	
Length	60 cm
Width	56 cm
Height	102 cm
Weight (Empty)	68 kg
Frame Composition	HDPE
Housing Composition	Borosilicate Glass
Adjustable Volume	3.5 L
$\Delta V/V$	5%
Working Fluid	Inert Mineral Oil
Operational Depth	
Minimum Controllable	0 m
Maximum Controllable	2000 m
Maximum Recoverable	6000 m
Maximum Velocity	0.25 m/s
Power System	
Battery Type	Lithium Ion Rechargeable
Battery Capacity	1206 W-hr
Nominal Battery Voltage	36 V
Charge Time	5 hrs
Hibernation Consumption	100 mW
Nominal Buoyancy Corrector	30 W

Sensing and Payload	
Integrated Sensors	Temperature, Pressure, IMU
Integrated Sensor Sample Rate	1 Hz
Payload Mass	100 kg
Payload Volume	100 L
Payload Voltages *	5 V, 12 V, 15 V, 24V
Number of Voltage Supplies	2
Payload Power	200 W
General Purpose Computer (DAQ)	
CPU	ARM Cortex A5 (SAMA5D27)
OS	Linux
Memory	256 MB
Storage	64 GB
Bulkhead Connectivity	Ethernet, USB, RS232, GPIO
Nominal Power	500 mW
Hibernation Power	0 mW
Analog Channels	12
ADC Sample Rate	1000 ksp/s
ADC Resolution	12 bit
Development Kit	Python SDK Logging Example
Subsea Tracking and Communication	
Type	USBL/ Acoustic Modem
Range	2 km
Available Commands	Status, Abort, Set Depth, Set Velocity
Surface Tracking and Localization	
Type	VHF, Iridium
Accessories and Options	
Auxiliary Battery	2653 W-hr
Solar Compatible	40 W
Auxiliary Imaging Computer	nVidia Jetson (GPU)
Auxiliary Storage	4 TB
Custom Sensor Integration	

