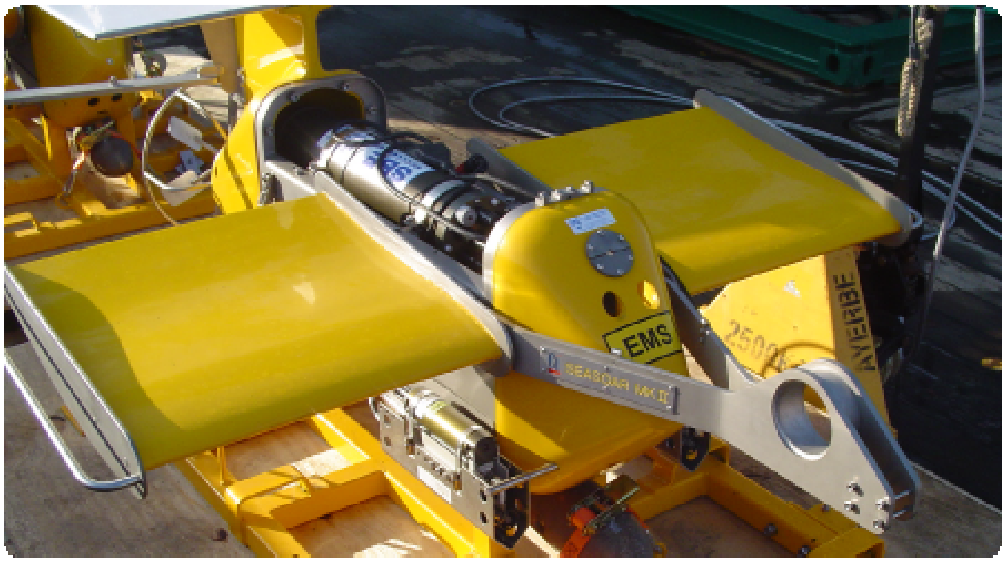
SeaSoar II

The world's leading open ocean towed data acquisition vehicle

APPLICATIONS

Oceanographic data gathering for:

- Ecosystem health monitoring
- Real-time collection of oceanographic data
- Fisheries Research
- Military oceanography
- Upper ocean dynamics
- EEZ monitoring



FEATURES

- Highly stable, reliable and robust vehicle with proven hydrodynamic characteristics.
- Established hydrodynamic design
- Large payload capacity with excellent accessibility to instrumentation
- Versatile choice of instrumentation
- Wide tow speed range (9 to 12 knots)
- Undulation depth range from 0 to 500m
- PC based operating system
- Custom configurations
- Generates its own power for vehicle control
- Real-time vehicle control with manual override
- Emergency override command for critical situations
- Bottom Information System
- 'At Sea' training provided

SeaSoar II

SeaSoar is a highly versatile towed undulating vehicle used to deploy a wide range of oceanographic monitoring equipment. Developed by the Chelsea Technologies Group from an original design by the Institute of Oceanographic Sciences (now the National Oceanography Centre, Southampton, UK) it has a proven record of reliability over many thousands of miles of operation. SeaSoar has undergone a number of revisions over the last ten years, but recent major re-designs to the deck control unit and hydraulic unit have resulted in a much-improved SeaSoar II.

SeaSoar II is capable of undulating from the surface to 500 metres at tow speeds of up to 12 knots (with faired cable) following a controlled and adjustable undulating path through the ocean. Maximum depth achieved is dependent upon system configuration. The PC based SeaSoar Deck Control Unit onboard the ship enables the operator to have real-time computer control over the vehicle's flight profile together with the storage and display of the flight parameters.

Sampled data, obtained from sensors mounted in SeaSoar II, are transmitted to the towing vessel for processing, display and storage via a multi-core tow cable. The high data rate and versatility of sensor and sampling packages make SeaSoar II an effective and productive platform for large-scale data collection.

The payload area is located within a stainless steel, deep-sided frame which provides strength and volume for instrumentation installation. Quick release stainless steel panels, top and bottom, can be removed without tools and give maximum possible accessibility to the payload.

SPECIFICATION

The SeaSoar II system has been designed as a flexible package. The standard system comprises the underwater vehicle, hydraulic unit, towing bridle, deck control unit and PC based 'CFlight' SeaSoar Flight Control Software and all relevant handbooks. The sensor payload can be designed to meet individual customer's requirements.

SeaSoar Body

Length:	2m	**Weight** (incl. hydraulic unit, excl. sensors)	In Air:	150kg
Height:	0.98m	**Width over wing hooks:**		1.60m

Operating Profile

Control:	Profile input at deck unit for automatic control of wings or manual over-ride
Depth Range:	0 to 500m faired cable (0 to 100m unfaired) typically
Towing Speed:	9 to 12 knots
Maximum rate of change of depth	+/- 3m/s (faired cable) +/- 1m/s (unfaired cable). Payload dependent.

Engineering Details

Flight Programme:	CFlight
Wing servo:	Moog analogue control with depth sensor feedback loop
Materials:	Strengthened glass fibre reinforced body; Stainless steel frame & towing yoke

Support Systems

Winch:	Dedicated winch & cable system is required. Users individual requirements dictates type of winch.
Cable:	Rochester 7-H-314AXX (high strength armour) or equivalent.
Fairing:	Indal Technologies Flexnose(R) fairing is recommended for increased depth and undulation range performance

Instrument Payload

Combination of: CTD, Fluorimeter, Transmissometer, Nephelometer, Bioluminescence, Irradiance meter, Nitrate/Nitrate sensor, Plankton Sampler, and SeaWifs bands sensors

All instruments & support systems can be supplied by Chelsea Technologies Group.

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