

CEE USV™

High Performance, Remotely-Operated Survey Boat

The Next Generation solution for unmanned hydrographic surveying.

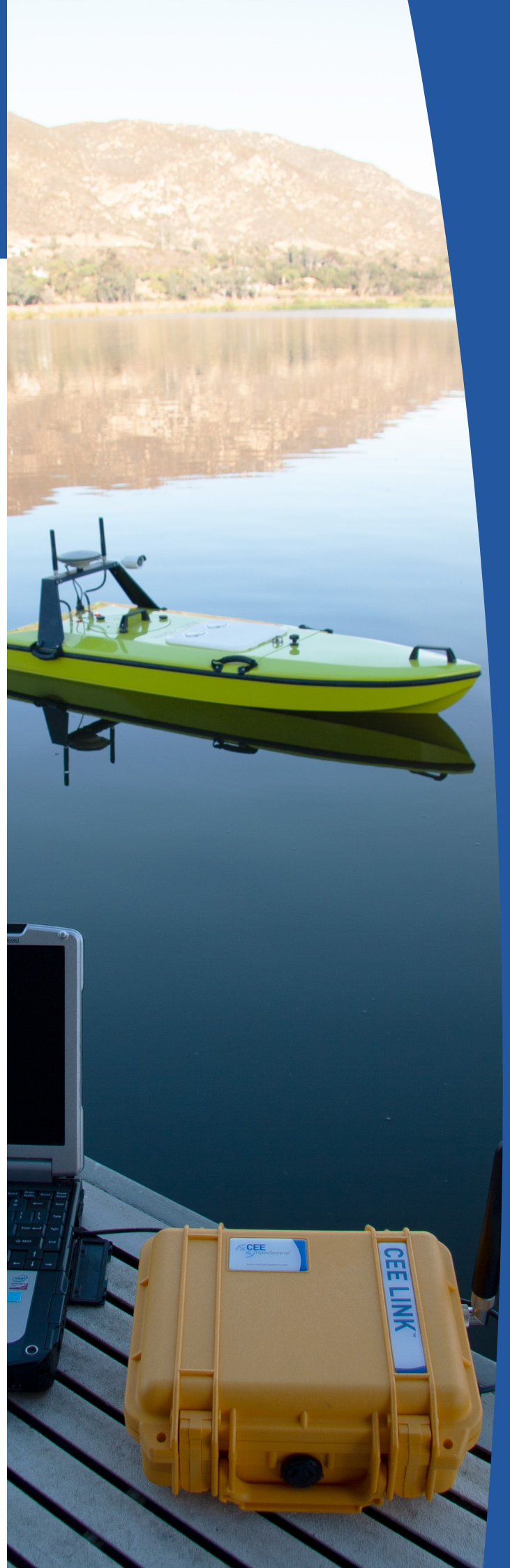
CEE-USV™ is a state of the art, high-performance survey boat incorporating a single beam echo sounder, GNSS positioning, live video, and on-board data management. A high bandwidth radio link to the dedicated CEE-LINK™ shore station allows the operator to record precise bathymetric survey results in real time with the minimum of mobilization effort and maximum productivity.

CEE-USV™ is ideal for surveys in challenging environments such as high velocity or shallow water river cross sections, industrial and contaminated effluent water, or bridge scour monitoring. As soon as the USV is powered-up, survey data is available on the shore for acquisition. The integrated CEE HydroSystems CEESCOPE™ hydrographic instrumentation presents an industry-leading simplicity of operation.

Coupled with the unique benefits of a collapsible super-rugged vehicle, the CEE-USV™ presents the next generation USV solution.



www.ceehydrosystems.com



CEE USV™

Features

Integrated Echo Sounder

The CEE-USV™ has an echo sounder and positioning system specially designed for remote deployment; the new dedicated CEESCOPE-LITE™ manages all aspects of the survey from GNSS positioning, echo sounding data collection to real time telemetry. With a single enclosure and the absolute minimum number of connecting cables, the CEESCOPE-LITE™ may be removed and reinstalled after use on a manned boat in a matter of seconds.

Removable Bow Flotation Module

The entire bow portion may be easily removed for transportation. The CEE-USV™ will fit into small vehicles and even helicopters, courtesy of the drastic reduction in length with the bow detached. As the bow segment is a separate, sealed component it provides a large reserve of buoyancy for maximized vessel safety.

CEE-LINK™ Convenience

CEE-USV™ uses the CEE-LINK™ shore module offering a simple solution for data transmission. Simply turn on the CEE-LINK™ and survey data are instantly available on the shore, ready to acquire with HYPACK®, Hydromagic, or any other hydrographic package. With an internal 13hr+ rechargeable battery, the CEE-LINK™ unit is self-contained, waterproof, and hassle-free, with just one setting to worry about – “on” or “off”.

Autonomous Navigation

With the CEE-PILOT™ robotic control module, bathymetric surveys can be completed with spectacular line-following results for premium survey deliverable accuracy and credibility.

Live Video Stream

With an external Ethernet input on the USV, high definition video and other ancillary data may be transmitted to the shore through the survey data link.

Long Range Operation

Antennae are raised above the water on the wing of the CEE-USV™ to greatly improve data range. Several antennae options are available to maximize operational range, up to and beyond 1km (3,300ft) distance.

- specifications are subject to change
- visit www.ceehydrosystems.com for the complete list of specifications
- v20142

Vehicle Specifications

Length	1.95 m (77”), 1.2 m (47”) bow removed
Beam	0.72 m (28”)
Draft	0.18 m (7”)
Total Weight	48 kg (105 lbs)
Speed	10 kts (5 m/s, 17 ft/s)
Endurance	Up to 3 hrs
Batteries	2 x NiMH 24V 10 Ah packs
Motors	2 x high power belt drive & shaft
Rudder	2 x with independent steering
RC	Spektrum or Hitec 2.4 GHz
Autopilot	Integrated Dynautics SPECTRE marine autopilot

CEESCOPE™ Hydrographic Instrumentation

Ping Rate	1 - 20 Hz
Depth Range	0.2 - 200 m (0.6 - 650 ft)
Transducers	33 / 200kHz, 200 kHz
Accuracy	1cm +/- 0.1% of depth
QC	Full water column echogram
Format	Network (Ethernet) incl. video
Data Logger	On board (HYPACK & CEE format)
GNSS	DGPS: NovAtel, Hemisphere RTK: NovAtel, Trimble RTK L-Band: Hemisphere
Options	ADCP



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