

## APL-UW Research Vessels

APL-UW has pier facilities on nearby Lake Union equipped with davits/hoists for loading the R/V *Robertson* and R/V *Henderson*; there are vehicles and forklifts available to transport heavy equipment. There are also various small boats available to support marine operations. Access to Puget Sound and deep water is available through a nearby system of locks.

**The R/V *Robertson*** was added to the APL-UW fleet in September 2008. The vessel features generous lab space on the main level, ample deck space, and operator's locator for good view of the deck and over-the-side operations, and bunk, galley, and head facilities. The A-frame, utility hoist, 12-ft wide folding swim step, and two hull wells allow multiple, flexible instrumentation deployment.



### Specifications:

Length: 56'-8"  
Breadth: 19'-0"  
Draft: 5'-0"  
Freeboard (aft): 4'-0"  
Construction: Fiberglass w/ aluminum work deck  
Speed: 0.5–10 kts  
Operating area: Puget Sound, Strait of Juan De Fuca and the coastal waters of Washington, Oregon, and Vancouver Island  
Range: 740 n mi  
Fuel: 1200 gal  
Water: 500 gal  
Main Engine: 455 HP - John Deere 6125AFM  
Bowthruster: 40 HP - 12" tunnel  
Electrical System: 240 VAC, 3 PH., 60 Hz, 24 VDC

Generators: 55 KW and 20 KW - Northern Lights  
UPS: 4000 Watt - Xantrex SW4024  
Work deck: 418 sq. ft.  
Swim step: 12'W x 3'D x 1' above WL (folding)  
Bolt Pattern: 3/4"-10 deck bolt sockets on aft deck (2'x 2' pattern)  
Deck Load: 6 LT (4' CG above work deck)  
A-Frame: 6,000 lb. (12'H x 12'W)  
A-Frame Winch: 6,000 lb with 50 ft. of 1/2" Spectra line  
Crane: Morgan 40-3L with 23 ft. reach and 30,000 ft.lb. capacity  
Utility Winch: Nordic 32 Series - 1000' of 1" line, 3,950 lb. full line pull  
Anchor Winch: 1000' of 1/2" wire, 90' of 5/8" chain plus 145# Forfjord  
Stern Winches: (2) 1000' of 3/8" wire, 90' of 3/8" chain plus 90# Forfjord  
Hydraulic System: 21 GPM @ 2900 PSI  
Air Compressor: 8.5 CFM @ 135 PSI (30 gal. tank)  
Lab: 286 sq. ft.  
Wet Wells: 19" and 10"  
Berthing: 6 persons  
Galley: Stove, refrigerator, and microwave/convection oven  
Head: (1) marine head with sink and shower  
Holding Tank: 200 gal. capacity  
Fire Extinguishing: Fixed engine room and (8) hand held extinguishers  
ADCP: RDI model WHVM-300  
CTD: SBE 911 with SBE 32SC Carousel—(12) 2.5-liter bottles  
Compass: JRC JLR-20 GPS compass  
DGPS: Northstar 952XD  
Electronic Chart: Nobeltec  
AIS: Furuno FA-150  
Radar: Furuno FR8062 (72nm range) Furuno 1832 (36nm range)  
Autopilot: Simrad AP50  
Depth: Furuno FCV-1100L (50/200 KHZ)  
VHF: (2) Standard-Horizon GX1500S  
Phone: Cellular base station w/ fax - 3 watt amp and ext. antenna  
Data/Internet: 3G/4G Mobile wireless router - Top Global MB6800  
Wind: R.M. Young (05106MA)  
Hailer/Intercom: Furuno LH3000  
Liferaft: DBC 12 person (SOLAS B)  
EPIRB: ACR Globalfix 406MHZ CAT. 1  
Lifejackets: 18 type 1, 8 work vest, 12 survival suit, 4 exp. suit

**The R/V Henderson** is a 70-foot steel-hulled catamaran vessel with a large interior lab space, a traveling overhead hoist, and a large wet well between the hulls. It is equipped with full instrumentation for calibration of underwater acoustic equipment. Accurate measurements can be made of transmit and receive responses, radiation patterns, and all transducer parameters. The vessel is only operated on the inland waters of Puget Sound and Lake Washington.

### Specifications

Length: 70 ft.

Draft: 4 ft.

Beam: 25 ft.

Displacement: 64 tons

Hull: Steel (catamaran)

Lab Space: 40 ft. long by 18 ft. wide with 8 ft. overhead; wet well opening 7 ft. by 24 ft.; space is heated with an oil furnace

Engine: (1) GM 4-71

Speed: 6 kts

Horsepower: 110

Fuel Consumption: 8 gal./hr.

Generator: (1) John Deere diesel generator 60 KW; 240 VAC 3Ph; 120 VAC 1 Ph

Fuel Tank: 2500 gal.

Water Tank: 500 gal.

Overhead Hoist: 2 ton capacity; travels length of wet well

Utility Winch: 1/2 ton, located in lab; 2250 ft. of 1/4 in. wire rope

Anchor Windlass: (3) winches, each with 1000 ft. of wire and gypsy-head; (2) 210# stockless anchors and (1) 150# Danforth anchor

Air Compressor: 125 psi; 5.3 cfm

Hydraulics: 220 HP electrohydraulic power unit; operates bowthruster and anchor winches

Ram: Mounted over wet well; capable of rotating/lowering equipment into well down to 50 ft.

Radar: Furuno 2400 (24 nm range)

Fathometer: Furuno FE6200 (50 kHz)

VHF Radio: ICOM IC-M120 (25 W); GE MVS special purpose transceiver (40 W)

DGPS: Northstar 941XD

Berthing: 4 bunks

Galley: Stove, oven, refrigerator, microwave

Head: (1) marine head with approved MSD; shower

Liferaft: (2) Elliot 6-person rafts

Firefighting: (8) handheld extinguishers

Lifejackets: (12) type 1 offshore vests, (6) work type vests, (2) floatsuits

