

Ocean Power Technologies' Autonomous PowerBuoy™ (APB) converts ocean wave energy into useable electrical power for remote at-sea power application. The APB has been proven effective and reliable in sea trials and can be tailored to meet the weight, volume and power generation requirements for a wide variety of commercial and military applications. The APB is protected under multiple U.S. and International patents.

- Powered by the endless source of ocean waves
- Completely autonomous
- Environmentally benign
- Accommodates various power payloads
- Easily deployed and retrieved in all water depths
- Able to utilize various anchor, mooring concepts
- Designed for ocean survivability



Ocean Testing-of Autonomous PowerBuoy 20 NM off the coast of Washington State, USA transmitting data via radio link



Some of the OPT Team outside the New Jersey factory

APB1* Design Characteristics

Dimensions:

Overall Height (deployed):	29.5 feet (9m)
Overall Height (stowed):	18.5 feet (5.6m)
Height Above Waterline:	5.4 feet (1.7m)
Draft:	24.1 feet (7.4m)
Average Float Diameter:	5.0 feet (1.5m)
Weight (no payload):	4,720 lbs (2,140kg)

*Autonomous PowerBuoy (APB1) with peak power capability of 1 kW in sea state 1



Harbor Testing in Seattle

APB Applications

Surface or subsurface applications include powering

- Oceanographic Observatories
- Coast Guard Buoys
- Off-Shore Fish Farming
- Sonar/Radar Systems
- Geophysical Sea Bed Sensing

APB Characteristics

- OPT has continued to advance the capabilities and features of the APB since the initial ocean testing in 2004.
- Design improvements have been implemented in the areas of power-take off devices, buoy hydrodynamic structure, generated wave power, data acquisition and analysis and electrical design.
- Various mechanical and electrical configurations are available to meet the application's power, weight and volume requirements.
- Modular and easily deployable.

APB Flexibility

- Configurable to provide variability in the buoy length for storage, ship deployment and post deployment operations.
- Can be configured as a single fixed mechanical structure or a retractable multiple segment structure.
- Adaptable to a variety of anchor and mooring designs, including single point mooring (side or bottom) and two or three point mooring (float, sides and/or bottom combination).

APB Power Capability

- Easily configured to meet the power demand of specific payload applications.
- Power generation capability levels are dependent upon the buoy operational location and prevailing sea state condition.
- Can be reconfigured to increase or decrease the power generation capability from 0.1 kW to 40 kW.
- Another unique feature of the APB is its capability to produce significant power in low sea state conditions