



Surface Warfare Test Ship

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The Surface Warfare Test Ship (SWTS) is designed as the successor to the Self Defense Test Ship (SDTS). It will be the Navy's centerpiece for shipboard self defense combat systems testing. SWTS is a converted SPRUANCE Class Destroyer hull and modified for Remote Control operations to conduct unmanned tests against current Anti Ship Cruise Missile threats.



The current Self Defense Test Ship is the ex-USS DECATUR. Commissioned in 1956, the DECATUR has served the Navy for more than 40 years. Since 1994, SDTS has tested many new Combat Systems including CIWS Block 1B, RAM Block 1, Thermal Imaging Sensor System, and SPQ-9B.

SDTS has significant limitations

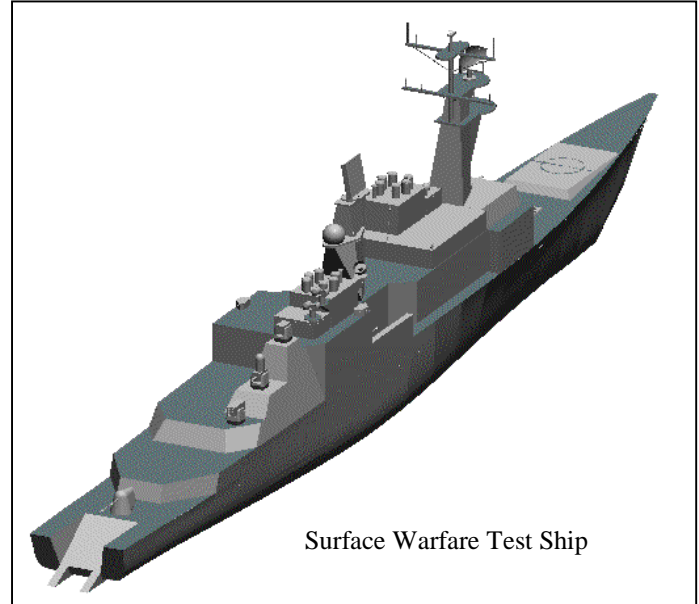
- Limited Propulsive Power
- Insufficient Berthing
- No space for additional Combat Systems
- Hull Corrosion



The Test Ship tows a Decoy Barge 100 yards astern. The barge seduces inbound cruise missiles away from the ship to prevent damage to the test ship and its combat systems payload.

The barge is towed close astern so the inbound missiles present a realistic threat profile to the test ship.

The cruise missiles used to test the self defense systems are actual modern cruise missiles such as Harpoon, Vandal, and Exocet. Telemetry kits replace the warheads for complete analysis of weapons engagement.



Surface Warfare Test Ship

Operational Requirements Document.

SWTS must be capable of:

- Carrying Ship Self Defense System Mark 2.
- Radar Cross Section less than SDTS.
- Safe Personnel Transfer Methods.
- Provide a Test Engineerroom for HM&E.
- Berth a company of 150.
- Capable of Remote Controlled Tests.

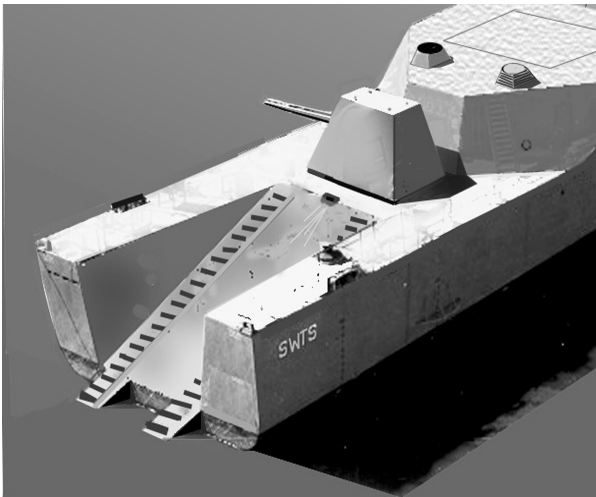
Ship Self Defense System Mark 2: LPD-17 Configuration

- SPS-48E (3-D Air Search Radar)
- SPQ-9B (Surface Search and Low Altitude Air Search)
- SPS-73 (Navigation Radar)
- SLQ-32A(V)2 (Electronic Sensing and Warning)
- Re-architected NATO Sea Sparrow Missile System
- Rolling Air Frame Missile (RAM)

Also, carry at Port Hueneme Request:

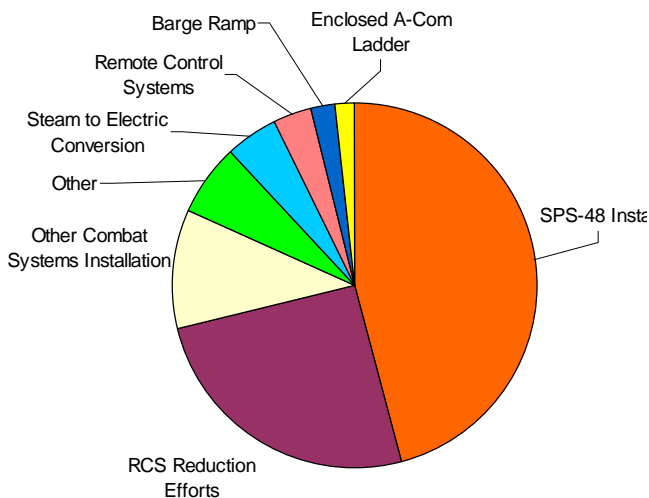
- Mk 45 Light Weight Gun
- SPS-49 (2-D Air Search Radar)
- Mk 15 CIWS Block 1B (Close in Weapons System)
- CIWS Camera for Monitoring of Engagements

Based upon a design on the French LAFAYETTE Class Frigate, the Enclosed Accommodation Ladder (EAL) provides a safe and easy means for boat transfer. The cofferdam structure on the starboard side of SWTS allows personnel to descend to the waterline inside the skin of the ship. Watertight doors located 4 and 10 feet above the waterline allow easy access to boats. The EAL reduces the Radar Cross Section of the SWTS and improves safety.



The Barge Ramp is installed to allow SWTS to carry the Decoy Barge. The ramp is sloped 24° and a towing hawser is controlled by a winch below the ramp. The SWTS operates independent of range tugs because the barge ramp allows SWTS to deploy and recover its Decoy Barge.

After unmanned tests, the weapon systems are armed when the Explosive Ordnance Detachment is landed onboard. The EOD personnel safe all weapons. To safely deliver the EOD personnel, the forward flight deck is located outside of all arcs of fire. The flight deck is transferred from ex-DECATUR and replaces the forward 5 inch gun.



The conversion cost analysis predicts a cost of \$30.1 M. The largest cost is the acquisition and installation of the SPS-48 radar that is part of the SSDS program cost, but should be installed at the time of conversion. The remaining costs are direct conversions to the SPRUANCE hull. The costs are mitigated because many systems are transferred from the

DECATUR, most systems are turned over in good condition from the commissioned crew, and the SWTS will not be a warship.

Item	Cost (\$K)
SPS-48 Install	14650
RCS Reduction Efforts	8070
Other Combat Systems Installation	3441
Other	1990
Steam to Electric Conversion	1500
Remote Control Systems	1150
Barge Ramp	675
Enclosed A-Com Ladder	530

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