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Outlook

- Last known production run now complete
- No additional production is forecast at this time
- Barring a sudden surge of activity, this report will be archived in 2008

Orientation

Description. The Cooperative OUTBOARD Logistics Update (COBLU) program upgrades the joint U.S./U.K. classic OUTBOARD SSQ-108(V) in order to provide naval forces with comprehensive surface tactical capability.

Sponsor

U.S. Navy
Space and Naval Warfare Systems Center
SPAWARSYSCEN
Code D21B
53570 Silvergate Ave
Bldg A33, Rm 0061
San Diego, CA 92152-55112
USA

U.S. Navy
Naval Surface Force
Pacific Fleet
San Diego, CA 92155
USA

Status. In operational service. No further production seen at this time.

Total Produced. A total of 35 systems are estimated to have been produced.

Application. Naval electronic countermeasures detection and analysis system used aboard ships of the U.S. Navy and U.K. Royal Navy.

Price Range. Based on the year 2000 initial full-rate production run contract, a COBLU system would cost around \$7.142 million per unit (including spares and support work) if all options are exercised.

Contractors

Prime

BAE Systems Electronics & Integrated Solutions	http://www.eis.na.baesystems.com , 65 Spit Brook Rd, Nashua, NH 03061-0868 United States, Tel: + 1 (603) 885-4321, Fax: + 1 (603) 885-2772, Prime
Applied Signal Technology Inc	http://www.appsig.com , 400 W California Ave, Sunnyvale, CA 94086 United States, Tel: + 1 (408) 749-1888, Fax: + 1 (408) 738-1928, Second Prime
Electronic Warfare Associates Inc	http://www.ewa.com , 13873 Park Center Rd, Herndon, VA 20171 United States, Tel: + 1 (703) 904-5700, Second Prime

Comprehensive information on Contractors can be found in Forecast International's "International Contractors" series. For a detailed description,

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go to www.forecastinternational.com (see Products & Samples/Governments & Industries) or call + 1 (203) 426-0800.

Contractors are invited to submit updated information to Editor, International Contractors, Forecast International, 22 Commerce Road, Newtown, CT 06470, USA; rich.pettibone@forecast1.com

Technical Data

Features. Cooperative OUTBOARD (Organizational Unit Tactical Baseline Operational Area Radio Detection) Logistics Update (COBLU) is a joint U.S./U.K. program to modernize the SSQ-108(V) countermeasures exploitation system. OUTBOARD is designed to provide signals intelligence across the LF/MF/HF/VHF bands. The system configuration consists of no more than seven racks of equipment with five operator positions.

COBLU Phase 1 is designed to promote an open system architecture. The system uses industry-standard hardware, software, interfaces, and Joint Maritime Command Information System (JMCIS)-compliant segments. Hardware and software components are

functionally independent (segmented) to provide easy portability to other platforms, easy upgrading as the mission or threat evolves, and less maintenance risk. Thus, changes to one segment do not ripple through the entire system. Creating JMCIS-compliant software enables COBLU Phase 1 to use and extend the existing library of cryptologic software. JMCIS is the Common Operating Environment (COE) upon which COBLU Phase 1 was developed. This environment includes a standard operating system and display style guide. JMCIS/Cryptologic Unified Build (CUB) compatibility testing took place at the Naval Command, Control and Ocean Surveillance Center (NCCOSC). Shipboard testing took place in a live signal environment.



The USS Arthur W. Radford DD-968 Spruance class destroyer is typical of the warship platforms equipped with the COBLU OUTBOARD SSQ-108(V) countermeasures exploitation system.

Source: U.S. Navy

Variants/Upgrades

Classic OUTBOARD. This was the original system and was designated SSQ-72 by the U.S. Navy. It consisted of SRD-19 deck edge and mast-mounted antennas, plus the SLR-16 HF signal intelligence receiver and local monitoring systems.

OUTBOARD I SSQ-108(V). This shipboard radio-signal detection and direction-finding system provides early warning and targeting of over-the-horizon surface ships. The OUTBOARD I system consists of the SRD-19A, the SLR-16A countermeasures receiver, the

OK-324/SYQ system-supervisor station (SSS, which interfaces with the ship's Combat Information Center and other ships equipped with the OUTBOARD system), a local monitoring station, and tactical intelligence communications.

OUTBOARD II SSQ-108(V). An enhanced version of OUTBOARD I, this system adds the SLR-23 automated narrowband acquisition system and an OK-324/SYQ modification kit.

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COBLU. This variation on the original OUTBOARD system enhances the detection, sorting, and tracking of hostile emitters. COBLU uses open architecture standards, standard TA-3 and TAC-4 workstations, and commercial off-the-shelf (COTS) processors and software conforming to the U.S. Navy common Unified Build software infrastructure. COBLU enhancements reportedly allow OUTBOARD to monitor public and government telephone networks. It is also supposed to be more in line with the requirements of modern littoral warfare plans.

Cryptologic Systems Trainer (CTS). This is a highly flexible, interactive tactical command and control (C²) warfare training system that provides the capability to simulate the OUTBOARD II SSQ-108(V) tactical system, record scenario activities, and provide operator/tactical system responses. The design baseline also includes a Battle Force Tactical Training (BFTT) interface using mandated Distributed Interactive Simulation protocol to take advantage of the inherent BFTT system capabilities.

Program Review

Background. Sanders (now part of BAE Systems Information & Electronic Warfare Systems) has been supplying the OUTBOARD system to the U.S. Navy and the U.K. Royal Navy for more than 25 years. OUTBOARD was designed in the mid-1970s and entered operational use a few years later. Some 36 U.S. Navy ships, mainly destroyers and cruisers, were equipped with OUTBOARD I and OUTBOARD II. The systems did not receive any major upgrades, enhancements, or modifications following introduction into the Fleet. (The upgrade from OUTBOARD I to OUTBOARD II was in reality a very minor modification.)

The COBLU effort was started in July 1994 as a joint program between the U.S. and U.K. with the signing of an official Memorandum of Understanding. Prototype unit production began in 1995 and continued through November 1998, when a successful technical evaluation

(TECHEVAL) was conducted aboard the Spruance class destroyer USS *Arthur W. Radford*. An operational evaluation (OPEVAL) was successfully completed the following year, in December 1999.

Known Procurement Over; New Production Run Unlikely

In early 2000, a decision was made to go ahead with full-rate production, and a contract to begin the first units was awarded to Sanders in June 2000. Delivery of the first five full-rate production systems began around November 2001. By mid-2005, the production and installation plan appeared to be running on schedule, with no new additions. All 35 installations were completed by the end of 2005. An exact figure for the contract could not be verified, but these 35 COBLU systems were possibly worth more than \$250 million. No further production is forecast at this time.

Funding

Funding sources for COBLU have been difficult to identify. For most of its development history, COBLU appears to have been funded primarily under U.S. Navy PE#0604721N Shipboard Information Warfare Exploit System, Project X2134 Shipboard Information Warfare Exploit. This effort also included work on the "Battle Group Passive Horizon Extension" system, "Ships Signal Exploitation" equipment, and the Common Data Line - Navy (CDL-N), as well as COBLU (which went into production in 2001).

Contracts/Orders & Options

<u>Contractor</u>	<u>Award (\$ millions)</u>	<u>Date/Description</u>
Sanders (BAE Systems)	N/A	Jun 2000 – Contract from U.S. Navy for full-rate production of up to 35 COBLU systems, as well as spares, installation, and training support. Deliveries for the base-year award of five systems began in 2001. All 35 installations were completed by the end of 2005. Contract had a possible value of \$250 million.

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<u>Contractor</u>	<u>Award (\$ millions)</u>	<u>Date/Description</u>
BAE Systems	16.0	Oct 2004 – Contract for procurement of COBLU subsystem to be integrated as part of the integrated electronics suite (IES) of the Italian Navy's multipurpose vessel. The IES is composed of communications and intelligence systems that include the Ship Wide Area Network (SWAN), Communications Intelligence (COMINT) systems, Data Display and Decision Intelligence (D ³ I) systems, Small Ship EW Support Measures systems, an ELINT system, and related technical support, training and documentation. Contract completed April 2007. (N00024-04-C-4210)

Timetable

<u>Month</u>	<u>Year</u>	<u>Major Development</u>
Jul	1994	Memorandum of Understanding between U.S. and U.K.
Aug	1995	Prototype production
Nov	1998	TECHEVAL aboard the Spruance class destroyer DD-968, USS <i>Arthur W. Radford</i>
May	1999	Initial low-rate production
Dec	1999	OPEVAL complete; Milestone III full-rate production approval
Jun	2000	Initial full-rate production award to Sanders (BAE Systems)
Nov	2001	Delivery of first five systems
	2005	Production run completed

Worldwide Distribution/Inventories

COBLU is a joint **U.S. Navy** and **U.K. Royal Navy** upgrade program. The following are proposed applications for some of the first production run of 35 systems. (Some of the systems are likely being used as engineering development models for future upgrades.)

U.S. Navy

- 16 units for DDG-963 Spruance class destroyers
- 2 units for CG-47 Ticonderoga class cruisers
- 1 unit for use as fleet trainer device at San Diego, California
- 1 unit for use as fleet trainer device at Dam Neck, Virginia
- 1 unit for software support activity
- 1 unit for use as shore-based test facility for electronic countermeasures programs

U.K. Royal Navy

- 4 units for Type 22 Batch 3 Cornwall class frigates
- 6 units for Type 23 Duke class frigates
- 1 unit for use as shore-based training and test facility

Forecast Rationale

The Cooperative OUTBOARD Logistics Update (COBLU) program is a joint U.S./U.K. surface ship program centered on an upgrade of the OUTBOARD SSQ-108(V) countermeasures exploitation system, which is designed to provide signals intelligence across the LF/MF/HF/VHF bands and to intercept "signals of

interest" (SOI), which in this day and age means intercepting communications between terrorist organizations. The upgrade has allowed OUTBOARD SSQ-108(V) system components to handle threats with a sustainable design. The full 35-unit production run was completed by the end of 2005. Additional upgrades

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are reportedly in development, but whether they will generate any market sales is difficult to say at this time. A future production run is not likely. Barring a sudden surge of activity, this report will be archived in 2008.

Ten-Year Outlook

Production is now complete and no new production is seen at this time. Thus, the forecast chart has been omitted. Barring a sudden surge of activity, this report will be archived in 2008.

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