

# ARCHIVED REPORT

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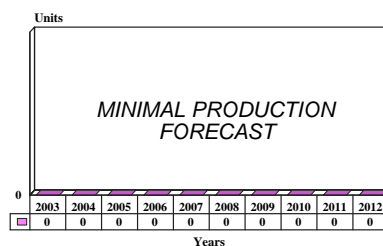
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## ALQ-142(V) - Archived 5/2004

### Outlook

- In service; ongoing logistics support
- Design foundation for the ALQ-210(V)
- Part of SH-60B LAMPS III Block II upgrade
- Further production beyond spares not planned

10 Year Unit Production Forecast  
2003-2012



### Orientation

**Description.** Naval airborne radar signal intercept set. It will be carried by the SH-60B/F.

**Sponsor**

US Navy

Naval Air Systems Command

NAVAIR HQ

47123 Buse Road Unit IPT

Patuxent River, Maryland (MD) 20670-1547

Tel: +1 301 342 3000

Web site: <http://www.nawcad.navy.mil>

**Contractors**

Raytheon Systems Company

Space & Airborne Systems

6380 Hollister Avenue

Goleta, California (CA) 93117

USA

Tel: +1 805 967 5511

Fax: +1 805 964 0470

Web site: <http://www.raytheon.com>

**Status.** In service, in production, ongoing logistics support.

**Total Produced.** Through 2002, an estimated 361 units had been produced.

**Application.** SH-60B LAMPS Mk III.

**Price Range.** Approximately US\$245,000.

Price is estimated based on an analysis of contracting data and other available cost information, and a comparison with equivalent items. It represents the best-guess price of a typical system. Individual acquisitions may vary depending on program factors.

### Technical Data

	<u>Metric</u>	<u>US</u>
<b>Dimensions</b>		
Weight	65 kg	143 lb
<b>Characteristics</b>		
Frequency range	2 to 25 GHz	

Coverage	360°
LRUs	4
<b>Characteristics</b> (continued)	
Antennas	4 (90° each)
Modes	ASW operations
	Surface targeting and missile warning
	Maritime patrol and missile warning

**Design Features.** The ALQ-142(V) detects radar signals, identifies their point of origin, and estimates their probable source. The system was designed to provide a high probability of intercept on a single scan even when targets are at long range. It incorporates technologies used in the SLQ-32(V), including four 90° Rotman-lens arrays located fore and aft on the helicopter. The ALQ-142(V) interfaces with an AYK-14(V) onboard computer. A datalink interface transmits information to the SLQ-32(V).

**Operational Characteristics.** The ALQ-142(V) is the electronic support measures (ESM) information-gathering system for the SH-60B Light Airborne Multi-Purpose System (LAMPS) III helicopter warfare activities, area surveillance, and over-the-horizon

targeting. Threat bearing is measured on each pulse, and emitter identification is determined by matching the received signal parameters against data stored in the AYK-14(V). Emitter identification and bearing are data-linked to surface ships for display on an SLQ-32(V) operator console. Intercept and direction finding are performed over 360° azimuth, with elevation coverage LAMPS III-specific.

The system acts as the airborne front end of an integrated ship/air electronic warfare system. It supports the Navy change to fleet-wide situational awareness and targeting. The system's components include the ESM sensor in the aircraft, sensors aboard the ship, and the electronic warfare operator's console in the CIC (Combat Information Center).

## Variants/Upgrades

The basic ALQ-142(V) ASW variant offers high probability of radar detection at extended ranges on a single scan.

A Surface Targeting variant can be produced by adding receiver modules to the basic system. This creates a surveillance and missile targeting capability for small surface ships, allowing beyond-the-horizon targeting – including cruise missile detection.

The Maritime Patrol variant provides additional coverage for assessing airborne targets. The system uses received radio frequency signals to identify and sort targets based on characteristics stored in a system library.

ALQ-142(I). This is a more responsive version that incorporates a more sensitive and accurate interferometer.

Antenna Upgrades. In July 1993, the Naval Air Systems Command published a notice that it intended to procure 460 retrofit kits to upgrade ESM antennas used in conjunction with the ALQ-142(V) on the SH-60B helicopter. The retrofit kits would prevent the antennas from burning out when exposed to high levels of radar emissions at sea and over land, and to high-density commercial emissions.

## Program Review

**Background.** Raytheon was awarded a contract in 1983 for 49 ALQ-142(V) systems. That contract was completed in 1984. In 1988, the Naval Air Test Center at Patuxent River, Maryland, began evaluating a new ALQ-142(I) interferometer antenna that was designed to be more sensitive and accurate, improving the LAMPS III's targeting capability.

In July 1993, the Navy published a notice of plans to procure 460 retrofit kits to upgrade the ALQ-142(V)'s antennas.

In late 1993, (then) IBM Federal Systems Company selected (then) Telephonics to develop and supply an upgraded avionics suite for the US Navy LAMPS III Block II upgrade. The ALQ-210(V) was selected for the S/MH-60R upgrade.

## Funding

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Funding is from Operations and Maintenance and SH-60 accounts.

## Recent Contracts

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No DoD contracts over US\$5 million have been recorded recently.

## Timetable

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<u>Year</u>	<u>Major Development</u>
1983	Initial procurement
1988	ALQ-142(V)(I) testing and evaluation
1999	SH-60R remanufacture start
2001	First SH-60R deliveries
2002	SH-60R IOC planned, last expected ALQ-142(V) production

## Worldwide Distribution

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According to government procurement records, the ALQ-142(V) has been sold through Foreign Military Sales (FMS) to an unidentified country operating the export versions of the SH-60. Countries employing this version of the SH-60 are **Australia, Japan** and **Spain**.

## Forecast Rationale

The ALQ-142(V) will have an active life with the US Navy. It is simple, reliable, performs well, and links effectively with the integrated defense network. The sensor was not installed on the SH-60F CV Inner-Zone helicopter. Like many older systems, hardware with

new technology and updated software is being adopted for most new applications.

No further production is expected beyond what supports a steady a spares/repairs market for systems remaining in operation.

## Ten-Year Outlook

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No further production is expected. Report may be archived next year.

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