AN Equipment Forecast

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

**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**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Metric</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>65 kg</td>
<td>143 lb</td>
</tr>
<tr>
<td>Frequency range</td>
<td>2 to 25 GHz</td>
<td></td>
</tr>
<tr>
<td>Coverage</td>
<td>360°</td>
<td></td>
</tr>
<tr>
<td>LRUs</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

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Characteristics (continued)

<table>
<thead>
<tr>
<th>Antennas</th>
<th>4 (90° each)</th>
</tr>
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<tbody>
<tr>
<td>Modes</td>
<td>ASW operations</td>
</tr>
<tr>
<td></td>
<td>Surface targeting and missile warning</td>
</tr>
<tr>
<td></td>
<td>Maritime patrol and missile warning</td>
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</tbody>
</table>

**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 AirborneMulti-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 the ALQ-142(V)’s antennas.

**Program Review**

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**

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

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Recent Contracts

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

Timetable

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

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

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

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