

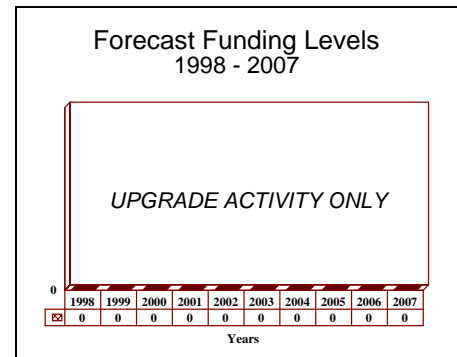
# ARCHIVED REPORT

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## ALQ-128(V) - Archived 4/99

### Outlook

- In service; ongoing logistics support
- No further production currently anticipated; upgrades to F-15 defensive suite continue
- Fiber Optic Towed decoy being evaluated for addition to the F-15 ECM suite



### Orientation

**Description.** Multimode threat warning receiver.

**Sponsor**

US Air Force  
AF Systems Command  
Aeronautical Systems Center  
ASC/PAM  
Wright Patterson AFB, Ohio (OH) 45433-6503  
USA  
Tel: +1 513 255 3767

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

**Total Produced.** Approximately 1,012 units have been produced.

**Application.** F-15A/B/C/D/E

**Price Range.** Unit cost is estimated to be approximately US\$900,000.

**Contractors**

Raytheon Systems Company  
Sensors & Electronic Systems  
[Formerly Hughes Defense Communications]  
1313 Production Road  
Fort Wayne, Indiana (IN) 46808  
USA  
Tel: +1 219 429 6370  
Fax: +1 219 429 6736

### Technical Data

**Design Features.** The F-15 protective system, the Tactical Electronic Warfare System (TEWS) consists of the ALQ-135 internal countermeasures system, ALR-56C radar warning receiver, ALE-45 countermeasures dispenser, and the ALQ-128(V). The F-15's

TEWS was the first operational dual-mode self-

protection system ordered by the US Air Force. It operates effectively over a very wide bandwidth (estimated 6 to 20 GHz). Warning coverage is reportedly greater than the coverage of the ALR-56.

**Operational Characteristics.** Operational characteristics of the system are classified, but the ALQ-128(V) provides threat warning coverage beyond the range of

the ALR-56. The TEWS was improved as part of PE0604270F, Project 5618. These efforts upgraded the overall TEWS suite based on anticipated threat improvements as well as improved integration with the rest of the F-15 avionics.

## Variants/Upgrades

There are no identified variants to this system. Upgrades have involved general capability enhancements, expanding the number and range of threats the system will recognize.

## Program Review

**Background.** Development of the F-15 TEWS began in FY71. The ALQ-128(V), along with the rest of TEWS, was developed under PE 64748F (Advanced Fighter Protective Systems), project 5618. This project was transferred to PE 64739F (Tactical Protective Systems) in FY78.

Efforts to improve the ALQ-128(V)'s threat capabilities have been ongoing. Upgrades to the ALQ-128(V), along with the entire TEWS, has concentrated on threat updates to the software. Flight testing of the TEWS components

began in 1987. Integration flight testing of the ALE-45, ALR-56C, ALQ-128 and ALQ-135 QRC began. In FY98. Phase IV F-15 TEWS integration flight testing began in November 1989.

The Air Force continues a variety of TEWS integration testing and performance evaluations; work that does not focus on the ALQ-128(V).

Israel has selected an advanced version of the Elisra SPS 3000(V) radar warning receiver and other indigenous EW systems for the 25 F-15I fighters it ordered.

## Funding

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Funding is now from O&M and other aircraft budget lines.

## Recent Contracts

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No recent DoD contracts over US\$5 million recorded.

## Timetable

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	1974	Initial development
	1976	Test & Evaluation completed
	1978	Full production authorized
	1980	Modifications initiated
Oct	1987	TEWS upgrade completed
	1988	TEWS compatibility tests scheduled for completion
	FY90	TEWS integration testing program continued
	1991	Persian Gulf combat operations
	1993	Final production for USAF F-15Es
	1996	Congress appropriated funds for 6 F-15Es (FY96 funding)

## Worldwide Distribution

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The TEWS is carried by US F-15s.

## Forecast Rationale

The ALQ-128 is a major subsystem of the TEWS, and continues to undergo pre-planned product improvements to upgrade the F-15E's jamming abilities during strike missions. The unique nature of the system eliminates application to anything except the F-15.

During the Persian Gulf War, the F-15 electronic warfare suite protected the USAF F-15Es during very demanding strike missions. Combat operations showed that the TEWS could protect against the Soviet equipment that made up most of Iraq's air defense and asset protection system, although the threat was not the most advanced available, except for some captured US and purchased French systems. The two F-15E losses were attributed to "golden BB," unguided AAA fire. There were no losses attributed to radar guided missiles. This speaks well for the effectiveness of the EW systems operating in terminal target areas.

The F-15E will carry much of the ground-to-air mission load for the near term, and will be a significant attack asset well into the next century.

Improvements involve software changes which extend the threat parameter range. The end of F-15E production ended new ALQ-128(V) production. Spare and repair parts production will continue through the operational life of the system, well into the next decade.

The 72 Saudi Arabian F-15Ss (F-15E airframes with modified avionics) will carry an "updated" TEWS that includes the ALQ-135, ALR- 56C, and ALE-45. There is no indication that the ALQ-128(V) will be included.

New Israeli F-15Is will carry indigenous EW systems. The US Air Force is evaluating the feasibility of adding the ALE-55 Fiber Optic Towed Decoy to enhance the F-15 defensive suite. It will be a variant of the system being developed by the US Navy for the F/A-18E/F Integrated Defensive Electronic Counter Measures (IDECM) suite.

## Ten-Year Outlook

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No further production expected.

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