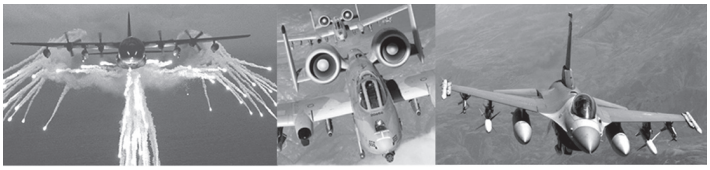
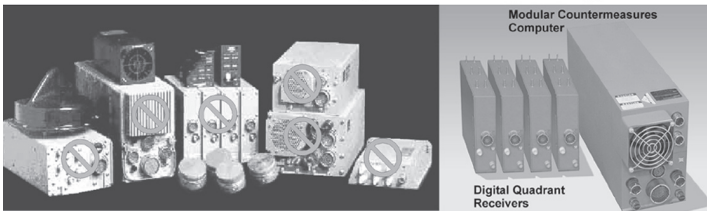
ALR-69A Radar Warning Receiver (RWR)

Executive Summary
- The ALR-69A Radar Warning Receiver (RWR) program is in the System Development and Demonstration phase, in preparation for a low-rate initial production decision that the Air Force delayed to June 2006.
- The Air Force delayed a planned, and DOT&E-approved, operational assessment of ALR-69A, which was to occur in 2005. The Air Force delayed it until 1QFY06. This delay is primarily due to software immaturity.
- The system will not be ready for government testing until contractor testing demonstrates software stability.

System
- ALR-69A RWR is designed to improve the Air Force's primary RWR system, the legacy ALR-69.
- It is designed for fighter and transport aircraft. Lead platforms are MC-130E and F-16C BLK 30.
- Core ALR-69A RWR components include:
  - Digital quadrant receivers
  - Countermeasures computer
  - Control indicator
  - Azimuth indicator
- Core ALR-69A capability designed to improve:
  - Detection range and time
  - Accuracy of threat identification
  - Performance in dense signal environment
  - Reliability and maintainability
- Spirals are designed to:
  - Offer very accurate single-ship threat geographic-locating capability



Digital RWR Replaces Obsolete ALR-69 LRU's With
3rd Generation Broadband Digital Receiver Technology



  - Precisely locate threats through a multi-aircraft network, enabling targeting of threats with Global Positioning System-guided munitions
  - Enhance threat identification

Mission
- Combatant commanders will use ALR-69A to enhance the survivability of transport, fighter, and special operations aircraft on missions that penetrate hostile areas.
- ALR-69A provides aircraft self-protection by warning pilots of radar threats to support timely defensive countermeasures.

Activity
- The ALR-69A program is in the System Development and Demonstration phase.
- The low-rate initial production decision, now planned for June 2006, should support acquisition of 50 units of the approximately 540 total ALR-69A purchase.
- Contractor system-level testing of the core ALR-69A system was the only significant testing conducted in FY05. Currently, the system is undergoing contractor testing. The testing is at the Electronic Warfare Avionics Integrated Support Facility, Robins AFB, Georgia.
- DOT&E approved an Operational Assessment (OA) test plan in May 2005. This OA includes thorough government laboratory, ground, and anechoic chamber installed facility testing. It was delayed approximately four months to 1QFY06, primarily due to the lack of software maturity.
- DOT&E approved a revised Test and Evaluation Master Plan (TEMP) in June 2005. This revised TEMP was required because of the change in the baseline RWR capability for the new ALR-69A. The ALR-69A core capability is designed to improve detection and identification performance over the legacy ALR-69 RWR.
- DOT&E directed the Air Force to submit a revised ALR-69A TEMP prior to low-rate initial production to support the IOT&E scheduled for early FY07.
- The limited testing in FY05 was conducted in accordance with the DOT&E-approved TEMP and test plan.

Assessment
- The ALR-69A is experiencing software stability problems as demonstrated by inconsistent detection performance during

contractor testing at its System Integration Laboratory and the Electronic Warfare Avionics Integrated Support Facility. The system will not be ready for government testing until contractor testing demonstrates software stability.
- The system hardware is stable as evidenced by the government's acceptance of the system design.
- An accurate assessment of the ALR-69A system's maturity, required to support the FY06 low-rate initial production and FY07 full-rate production milestones, will not be available until the system is assessed in government testing.

Recommendations

None.