

ACES

Advanced Countermeasures Electronic System



Raytheon's Advanced Countermeasures Electronic System is a fully integrated EW suite with robust situational awareness and powerful jamming capabilities designed specifically for the F-16. ACES represents the most modern EW digital technology available, providing a secure electronic shield against anti-aircraft missiles and threats from enemy radars.

Benefits

- Fully compatible with F-16 aircraft (Blocks 60/52+/50/30)
- DRFM-controlled full spectrum jammer for robust suite of effective countermeasures; fore and aft coverage
- Digital RWR provides precision situational awareness – effectively coordinates countermeasures responses in dense signal environments
- Flight-line and intermediate level ground support equipment with fully developed manuals and training
- Software support facility for mission threat data reprogrammability allows threat-adaptive changes based on mission profile
- Growth-compatible modular architecture allows for easy integration of new technologies and auxiliary EW systems suitable for new and existing F-16 aircraft

ACES represents the most modern internal EW suite available today. The system features a high performance RWR for dense signal environments and a new digital RF memory-based (DRFM) jammer with enhanced resource management and technique-rich capabilities controlling E-J Band Transmitters designed to fit F-16 configurations.

Proven Performance and Integration

Built on a legacy of EW suites designed specifically for the F-16, including Raytheon's Advanced Self-Protection Integrated Suite (ASPIS and ASPIS II), ACES reflects the next generation of advanced EW for the F-16. ACES/ASPIS EW Suites have been selected for more than 320 F-16 aircraft. Deployed systems have proven highly effective against real threats in acceptance flight trials, combat exercises and spontaneous defense of sovereign

territory. Designed to detect, identify and counter modern threats in a high density environment, the system integrates an RWR with an internal jammer and countermeasures dispenser system — offering an effective and dependable F-16 integrated electronic self-protection system. Additionally, the system's modular architecture allows for easy integration of new technologies, auxiliary EW systems and other F-16 avionics. ACES also offers full reprogrammability of mission threat data and ECM technique libraries, making it threat-adaptive to changes in mission profile over its projected operational life.

Low Risk, Low Cost

Enhancements in modern digital technology offer high reliability and low cost, allowing ACES to be offered at a more competitive price than many legacy EW suites. In fact, the entire integrated ACES suite

costs less than some jammers currently deployed on other existing aircraft or still in development for future aircraft. The ASPIS legacy system has been EMI/EMC and safety-of-flight certified on the F-16 and is flight proven and operationally deployed. Program infrastructure is in place to actively manage new production requirements.

Supportable

ACES offers flight-line and intermediate level support infrastructure, including flight-line test sets, intermediate level centralized test sets, spare parts lists, and operator and maintenance training manuals. ACES may be indigenously programmed where in-country reprogramming is exportable. It is a complete EW package that will provide affordable and effective self-protection for F-16 aircraft.

ACES Advanced Countermeasures Electronic System



ACES Radar Warning Receiver



ACES DRFM-Based Jammer



ACES Countermeasures Dispenser System

Growth Potential

ACES uses a modular, all digital architecture that addresses the principles of mission survivability and overall mission assurance. The architecture easily allows the integration of new technologies to improve capabilities in situation awareness or threat countermeasures such as RF Towed Decoys and Missile Warning Systems.

ACES Subsystems

The ACES RWR incorporates modern advanced receiver technology to provide timely threat radar detection, accurate signal identification, and effective threat warning, significantly enhancing aircrew survivability. It offers high sensitivity for long detection range and high probability of intercept using digital

channelized receivers, ensuring dependable operation in very dense signal environments. Raytheon offers suite configuration flexibility based on customer requirements and releasability. Our RWR is an open architecture design providing the optimal receiver front end for the ACES integrated EW suite. The ACES RWR, working with the suite controller, coordinates the countermeasures responses available in the ACES suite, providing truly integrated system operation with the jammer and the countermeasures dispenser system.

The ACES Jammer provides the latest in multitracker, channelized DRFM-based ECM that

protects the aircraft from a large number of simultaneous threats, with a large number of enhanced technique generation capabilities. The ACES Jammer is integrated with the RWR to counter Modern Pulse, Pulse Doppler, and Continuous Wave threats in a very high density signal environment, including surface-to-air and air-to-air missiles as well as anti-aircraft artillery. Providing coverage both forward and aft, the ACES Jammer provides full-power, effective jamming in E-J threat bands, in coordination with the Tactical ACES Countermeasures Dispenser System (TACDS).

The TACDS provides an integrated, reprogrammable, dependable, computer-controlled capability for dispensing expendable decoys (chaff, flares, and others). It can prioritize and automatically dispense the correct type and amount of chaff and/or flares to counter single or multiple threats and it uniquely supports coordinated countermeasures with the RF jammer.



ACES is specifically designed for F-16 aircraft



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