



IDS Business Support,  
Communications and  
Community Affairs  
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## Boeing Military Aircraft

### Anti-Submarine Warfare and Intelligence, Surveillance & Reconnaissance

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#### 737 Airborne Early Warning and Control Backgrounder

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##### **Description & Purpose:**

737 AEW&C is a state-of-the-art system providing powerful airborne surveillance, communications and battle management.

##### **Customers:**

The Australian Defence Force selected the 737 AEW&C system in July 1999. A contract for Project Wedgetail was signed in December 2000 for four 737-700 aircraft, and six AEW&C systems plus options for three additional systems.

In 2004, Australia exercised options to purchase two additional 737-700 aircraft.

The first two aircraft are being modified and flight tested in Seattle, Wash. The third and fourth aircraft are being transformed into the AEW&C configuration at a Boeing facility in Australia. The other two aircraft also will be modified in Australia.

Delivery of the first two aircraft is scheduled for March 2009. The other four aircraft will be delivered in mid-2009.

In November 2000, the Republic of Turkey selected a Boeing-led team to begin contract negotiations on developing a new AEW&C system. A contract was signed in June 2002 and officially started in July 2003. The program, known as Peace Eagle, includes four 737 AEW&C aircraft plus ground support segments for mission crew training, mission support and system maintenance support. Modification of the first aircraft is underway in Seattle. Three other aircraft are being modified in Ankara, Turkey.

Boeing signed a contract in Nov. 2006 to provide four 737 AEW&C aircraft for the Republic of Korea's EX program. The Boeing team's solution also includes ground support segments for flight and mission crew training, mission support and aircraft and system modification support.

737 AEW&C gives Korea a powerful capability for airborne surveillance, communications and battle management. It also provides increased security for the Korean peninsula against today's threats and threats in the future.



## **General Characteristics:**

- 737-700 increased gross weight (IGW) airframe
- Northrop Grumman "MESA" electronically scanned array radar system
  - 360 degrees/Air and Maritime modes/200 + nmi range/All Weather
  - IFF: 300 nmi
- Open system architecture/COTS
- 6 to 10 multi-role/purpose consoles
- System Track Capacity: >3,000
- Precision Tracker
- Communications include, but are not limited to, (3) HF, (4) VHF/UHF, (4) UHF and Link 11 & 16 (Customer selects encryption capability) (2) Have Quick
- Operational ceiling: 41,000 ft
- Range: 3,500 nm
- Flight Crew: 2
- Mission Crew: 6 to 10

## **Miscellaneous:**

The platform is the Boeing Next-Generation 737-700 featuring 21<sup>st</sup> century avionics, navigation equipment, and flight deck. Because of its high technology, the aircraft requires minimal downtime for maintenance.

The 737 series is one of the most popular and reliable jet aircraft in the world. Its popularity has resulted in a worldwide base of suppliers, parts and support equipment. The Multi-role Electronically Scanned Array (MESA) radar is the critical sensor aboard the 737 AEW&C. The steerable beam, L-band electronically scanned array is designed to provide optimal performance in range, tracking, and accuracy. The radar is able to track airborne and maritime targets simultaneously and can help the mission crew direct the control of fighter aircraft while continuously scanning the operational area.

The so-called 'top hat' portion of the MESA radar provides a practical solution for fore and aft coverage while maintaining the low drag profile of the dorsal array system. This allows the system to be installed on the mid-size 737-700 platform without significant impact on aircraft performance. Another innovation is the integrated Identification Friend or Foe (IFF) sharing of the primary radar arrays to further reduce weight, improve reliability, and simplify target correlation. More than 1200 hours of wind tunnel testing have demonstrated the compatibility of the aircraft and the radar. In addition, the 737 AEW&C has an advanced open system architecture with a standards-based design for cost-effective commonality and maximum flexibility.

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