



FACT SHEET

U.S. Air Force Fact Sheet E-8C JOINT STARS

Mission

The E-8C Joint Surveillance Target Attack Radar System, or Joint STARS, is an airborne battle management, command and control, intelligence, surveillance and reconnaissance platform. Its primary mission is to provide theater ground and air commanders with ground surveillance to support attack operations and targeting that contributes to the delay, disruption and destruction of enemy forces.



Features

The E-8C is a modified Boeing 707-300 series commercial airframe extensively remanufactured and modified with the radar, communications, operations and control subsystems required to perform its operational mission. The most prominent external feature is the 27-foot (8 meters) long, canoe-shaped radome under the forward fuselage that houses the 24-foot (7.3 meters) long, side-looking phased array antenna.

The radar and computer subsystems on the E-8C can gather and display detailed battlefield information on ground forces. The information is relayed in near-real time to the Army and Marine Corps common ground stations and to other ground command, control, communications, computers and intelligence, or C4I, nodes.

The antenna can be tilted to either side of the aircraft where it can develop a 120-degree field of view covering nearly 19,305 square miles (50,000 square kilometers) and is capable of detecting targets at more than 250 kilometers (more than 820,000 feet). The radar also has some limited capability to detect helicopters, rotating antennas and low, slow-moving fixed wing aircraft.

As a battle management and command and control asset, the E-8C can support the full spectrum of roles and missions from peacekeeping operations to major theater war.

Background

Joint STARS evolved from Army and Air Force programs to develop, detect, locate and attack enemy armor at ranges beyond the forward area of troops. The first two developmental aircraft deployed in 1991 to Operation Desert Storm and also supported Operation Joint Endeavor in December 1995.

Team Joint STARS men and women have contributed tremendously to overseas contingency operations, flying more than 83,000 combat hours in support of Operations Enduring Freedom, Iraqi Freedom, New Dawn Odyssey Dawn, and Unified Protector. Their operational resume includes support of six Combatant Commands including U.S. Pacific Command, U.S. Northern Command and U.S. Southern Command, U.S. Africa Command, U.S. Europe Command.

Team JSTARS was the first organization in the U.S Air Force to activate under the Air Force's Total Force Initiative as a "blended" wing. America's first "Total Force" wing, the former 93rd Air Control Wing, an active-duty Air Combat Command unit, and the 116th Bomb Wing, a Georgia Air National Guard unit, were deactivated Oct.1, 2002. The 116th Air Control Wing was activated blending Guard and active-duty Airmen into a single unit. In October 2011, the Active Associate construct was formed by the newly activated 461st Air Control Wing as a member of Team JSTARS.

Team JSTARS through the 116th ACW is the only unit that operates the E-8C and the Joint STARS mission.

General Characteristics

Primary Function: Airborne battle management

Contractor: Northrop Grumman Corp. (primary)

Power Plant: Four Pratt and Whitney TF33-102C

Thrust: 19,200 pounds each engine

Wingspan: 145 feet, 9 inches (44.4 meters)

Length: 152 feet, 11 inches (46.6 meters)

Height: 42 feet 6 inches (13 meters)

Weight: 171,000 pounds (77,564 kilograms)

Maximum Takeoff Weight: 336,000 pounds (152,409 kilograms)

Fuel Capacity: 155,000 (70,306 kilograms)

Payload: electronic equipment and crew

Speed: 449 - 587 miles per hour (optimum orbit speed) or Mach 0.52 - 0.65 (390 - 510 knots)

Range: 9 hours

Ceiling: 42,000 feet (12,802 meters)

Crew: (flight crew), four; (mission crew) normally 15 Air Force and three Army specialists (crew size varies according to mission)

Unit Cost: \$244.4 million (fiscal 98 constant dollars)

Initial operating capability: December 1997

Inventory: Total Force wing, 16; Reserve, 0

Point of Contact

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