



AIR COMBAT COMMAND

PEOPLE FIRST - MISSION ALWAYS

EC-130H COMPASS CALL

Current as of March 23, 2023



MISSION

The EC-130H Compass Call is an airborne tactical weapon system using a heavily modified version of the C-130 Hercules airframe. The system disrupts enemy command and control communications and limits adversary coordination essential for enemy force management.

The Compass Call system employs offensive counter-information and electromagnetic attack (EA) capabilities in support of U.S. and coalition tactical air, surface, and special operations forces. Programmed upgrades have expanded its mission by procuring a secondary EA capability against early warning and acquisition radars. The EC-130H continuously tests new capabilities and tactics to respond to emerging threats and requests from combatant commanders.

FEATURES

The EC-130H aircraft carries a combat crew of 13 people. Four members are responsible for aircraft flight and navigation (aircraft commander, co-pilot, navigator and flight engineer), while nine members operate and employ the EA mission equipment permanently integrated in the cargo/mission compartment. The mission crew includes the mission crew commander (electromagnetic warfare officer), weapon system officer (electromagnetic warfare officer), mission crew supervisor (an experienced cryptologic linguist), four analysis operators (linguists), one acquisition operator and an airborne maintenance technician.

The 55th ECG has flown 14,789 combat sorties and 90,417 flight hours as they provided U.S. and coalition forces and joint commanders a flexible advantage across the spectrum of conflict. Compass Call's adaptability is directly attributed to its spiral upgrade acquisition strategy guided by the Big Safari Program office and Air Force Materiel Command's 645th Aeronautical Systems Squadron based in Waco, Texas. Combined efforts between these agencies ensure the EC-130H can counter new, emergent communication technology.

The current configuration of the EC-130H provides the DoD and coalition partners with the equivalent of a "fifth generation electromagnetic attack capability." The aircraft effectively jams communications, early warning/acquisition radars and navigation systems during tactical air and ground operations. It is highly reconfigurable and permits incorporation of clip-ins that can be employed seamlessly with legacy capabilities.

A majority of the improvements found in the EC-130H Compass Call are classified modifications to the mission system that enhance precision and increase target capacity. The system was designed to incorporate options for "plug-and-play" quick reaction capabilities, which have historically allowed the program to counter unique high profile threats. This flexibility allows the aircraft to keep pace with adversary use of emerging technology. It promotes enhanced crew proficiency and effectiveness, maintenance and sustainment with a common fleet configuration, new operator interfaces, increased reliability and better fault detection.

AIR COMBAT COMMAND PUBLIC AFFAIRS

115 Thompson St., Ste 121
Langley AFB, Va. 23665-1987

ACCPA.operations@us.af.mil
757-764-5007



Twitter: @aircombatcmd

Facebook: @aircombatcommand



Instagram: @aircombatcommand





AIR COMBAT COMMAND

PEOPLE FIRST - MISSION ALWAYS

The aircraft's communication capabilities have been improved with an expansion of satellite communication connectivity compatible with emerging DoD architectures, increased multi-asset coordination nets and upgraded data-link terminals. Improved external communications allow Compass Call crews to maintain situational awareness and connectivity in dynamic operational and tactical environments. Furthermore, modifications to the airframe provide improved aircraft performance and survivability.

The flight deck of available aircraft have been upgraded to a glass cockpit. These upgrades provide the EC-130H with an upgraded civil avionics capability to address obsolescence issues and to comply with Global Air Traffic Management (GATM) requirements. New electronic flight instrument displays have been installed that will display all engine data, hydraulic pressures, flap position and trim tabs for the ailerons, rudder and elevator. A new color weather radar has been installed that includes weather radar, precision ground mapping and wind shear functions.

The Compass Call integrates into tactical air operations at any level. The versatile and flexible nature of the aircraft and its crew enable the power of electromagnetic combat to be brought to bear in virtually any combat situation.

BACKGROUND

All Compass Call aircraft are assigned to Air Combat Command. The EC-130H is operated by the 55th Electronic Combat Group (ECG) consisting of two operational squadrons (41st and 43rd Electronic Combat Squadron (ECS)), a formal training unit (the 42nd ECS), the 755th Operations Support Squadron (OSS), and the 755th Aircraft Maintenance Squadron (AMXS). The 55th ECG is a tenant unit of the 355th Wing at Davis-Monthan AFB, Arizona. Although located at Davis-Monthan, the group reports to the 55th Wing at Offutt AFB, Nebraska.

The Compass Call had its first flight in 1981, was delivered to the Air Force in 1982, and reached initial operating capability in 1983. Over its 40-year operational life, the aircraft has demonstrated a powerful effect on enemy command and control networks in multiple military operations including Kosovo, Haiti, Panama, Libya, Iraq, Serbia, Afghanistan and the Horn of Africa.

The 41st Expeditionary ECS (EECS), hosted by the 41st ECS, sustained continuous deployed support of Operations ENDURING FREEDOM & FREEDOM'S SENTINEL until the 41st EECS deactivated in September 2021. 41st EECS crews had flown more than 53,000 hours during 9,200 combat sorties in those operations. Additionally, the 43rd EECS, hosted by the 43rd ECS, has supported operations in SOUTHCOM, CENTCOM, and AFRICOM, providing more than 36,800 hours of EA. The 42nd ECS provides the 41st and 43rd well-trained aviators at a rate of 200 students per year. The 755th OSS provides tactics, training, intelligence, security, and life support to keep the 41st and 43rd ready to deploy at a moment's notice. The "World's Best Maintainers" of the 755th AMXS maintain the jam by delivering mission-capable aircraft despite age and logistic challenges.

Characteristics

Primary function: Electromagnetic warfare, suppression of enemy air defenses and offensive counter information

Contractors: BAE Systems (prime mission equipment), and L3 Communications (aircraft integration and depot maintenance)

Power plant: Four Allison T56-A-15 turboprops

Thrust: 4,910 prop shaft horsepower

Wingspan: 132 feet, 7 inches (39.7 meters)

Length: 97 feet, 9 inches (29.3 meters)

Height: 38 feet, 3 inches (11.4 meters)

Weight: Baseline 2.5 104,000 pounds (47,174 kilograms)

Maximum takeoff weight: 155,000 pounds (69,750 kilograms)

Fuel capacity: 41,000 pounds (18,597 kilograms)

Speed: 300 mph (Mach 0.52) at 20,000 feet (6,060 meters)

Range: 2,295 miles (3,694 kilometers)

Ceiling: 25,000 feet (7.6 kilometers)

Armament: Non-kinetic energy waveforms

Crew: 13 (two pilots, navigator, flight engineer, two electromagnetic warfare officers, mission crew supervisor, four cryptologic linguists, acquisition operator and an airborne maintenance technician)

Unit Cost: \$165 million

Initial operating capability: 1983

Inventory: Approximately 7 (PMAI)

AIR COMBAT COMMAND PUBLIC AFFAIRS

115 Thompson St., Ste 121
Langley AFB, Va. 23665-1987

ACCPA.operations@us.af.mil
757-764-5007



Twitter: @aircombatcmd

Facebook: @aircombatcommand



Instagram: @aircombatcommand

