

Coming Out of the Shadows



Back in the old days, O-club bars around the world were populated with fighter pilots who shared many a story about their exploits in carrier aviation. In those same bars, there was another group of aviators who would not and could not talk about their mission or where their travels had taken them. If a fighter pilot engaged them in 6G hand maneuvers, these aviators could only wonder if the fighter guy knew anything about what their EA-3B or EP-3 had been doing behind the scenes for the battle group. The reconnaissance community avoided attention because it might compromise its mission, possibly endangering the aircraft and the aircrew.



A VQ-1 EP-3E *Aries II* displays some of its formidable reconnaissance hardware.

In many respects reconnaissance units still work behind the scenes, providing support to the warfighter while shunning attention that might compromise their operations. However, shrinking military budgets coupled with increased emphasis on information warfare have caused most traditional military units to rely more heavily on intelligence gathering, surveillance and reconnaissance assets. The increased emphasis on information has forced out the old “cloak-and-dagger” mentality and pulled these units onto center stage. Home-based at NAS Whidbey Island, Wash., the *World Watchers* of Fleet Air Reconnaissance Squadron (VQ) 1 are representative of this new breed.

In January 1995, VQ-1 completed a home port change from NAS Agana, Guam, to Whidbey Island, as mandated by the Base

Realignment and Closure Commission rulings. During the move, VQ-1 continued permanent manning of two forward-deployed detachment sites while relocating to the States. VQ-1 planes and aircrews never missed a beat. The det sites, located at NAF Misawa, Japan, and Manama, Bahrain, orchestrate daily flight operations within the Seventh and Fifth fleet areas of responsibility. Crews deploy to det sites for approximately two months, often traveling to Okinawa, Diego Garcia, Malaysia, Australia, Indonesia, South Korea, Thailand, Spain and other places around the world.

In 1988, VQ-1 retired its last EA-3B *Skywarrior*—a carrier-based, seven-seat jet affectionately known as the “Whale”—and became a land-based squadron. Both VQ-1 and sister squadron

VQ-2, based at NAS Rota, Spain, now exclusively fly the EP-3E *Aries II*. This conversion of the Lockheed P-3C *Orion* has been specially adapted for signal intelligence. Numerous antennae bristle from the aircraft’s body and wings. The most noticeable of these appendages houses the AN/APS-134 Big Look radar; its antenna is located beneath the nose of the aircraft in a large radome that resembles a giant gray “M&M.” The EP-3E’s Allison T56-14 engines are the same as those used in the P-3C. They also have the beefed up landing gear and airframe to accommodate the heavier aircraft weight. Maximum gross takeoff weight is 142,000 pounds, which includes 60,000 pounds of fuel—enough for over 12 hours of flight.

Operations for the *Aries II* vary widely, but the mission remains

the same in peacetime or war: to provide indications and warnings as well as combat identification to warfighters. "Indications and warnings" refers to the level and type of electromagnetic activity a target, whether a nation or a ship, is emitting. The EP-3 crews convey this information to national intelligence elements, which collect and correlate information from multiple military sources. At other times, the *Aries II* crews relay signal intelligence data directly to the attack and fighter pilots flying missions in the vicinity of surface-to-air missile sites. In both cases, the data provided is critical to operational success.

A typical mission aircrew consists of 7 officers and 17 enlisted personnel. The aircraft and crew is nominally divided into three sections. The first includes the flight station, navigation and communications suite. Three of the seven officers on board are pilots, rotating through the pilot and copilot seats during the mission. The most senior qualified of these is the electronic



warfare aircraft commander (EWAC), who is directly responsible for the safety of the aircraft and crew. A second pilot, who is in the process of upgrading to EWAC, and a third pilot, who is still learning the aircraft systems, complete the pilot complement.

Two flight engineers rotate through the third flight station position. They monitor the aircraft systems and are specially trained to handle emergencies and malfunctions in conjunction with the

pilots. The navigators are usually the most junior Naval Flight Officers on the aircraft. They are responsible for long-range and overwater navigation and global communications throughout the flight. The navigator plays a vital role in the identification of potential ground hazards, while transmitting mission communications. The secure communications operators are specially trained cryptologic technicians (CTs) who handle classified, time-sensitive mission communications.

The second section of the aircraft houses equipment for the interception, identification and analysis of electronic emissions. A team of enlisted operators sits at a bank of monitors and electronic equipment on the port side of the aircraft, which makes up the "in-line." The first two positions are held by avionics technicians or aviation electricians called electronic warfare operators (EWOPs), whose function it is to detect and locate electronic emissions by a target nation, aircraft or

An EA-3B *Skywarrior* of VQ-1 launches from the waist catapult of *Constellation* (CVA 64) during exercises in the Indian Ocean on 28 November 1974.





EP-3E Aries II

Wing span	99'8"
Length	105'11"
Height	34'3"
Zero fuel weight	82,000 lbs
Max. weight	142,000 lbs (takeoff) 114,000 lbs (landing)
Max. air speed	345 kias
Max. altitude	30,000'
Endurance	12 hours
Max. range	3,500 miles

ship. News of a signal of interest is passed up the in-line to the Big Look operator. This person has the most experience in signal identification, having already spent numerous deployments as an EWOP. The Big Look radar can also provide more detailed information about a signal. If the signal is new or of interest, the laboratory operator may be tasked to perform further analysis of the signal. This individual is another highly trained CT who specializes in signal identification and analysis. The second most senior Naval Flight Officer of the crew runs the in-line and acts as the tactical evaluator. He directs the EWOPs and laboratory operators in their search and analysis of the electromagnetic spectrum, and passes information to the senior evaluator (SEVAL).

"SEVALs fuse all the data coming into the aircraft to produce an intelligence product that is usable, useful and understandable in near real time. It can then be disseminated to various theater and national decision makers, as well as operational commanders," explained SEVAL Lieutenant Commander Jim Bonomo.

SEVALs provide the voice of the EP-3E. Upon their shoulders rests the majority of the mission decisions and the responsibility to get collected information off the aircraft in a timely fashion to operational commanders. National intelligence assets rely on the EP-3 to update

and maintain their country databases; fleet commanders rely on the EP-3 to keep them informed of enemy activity; and strike pilots rely on the EP-3 to alert them to any enemy that may be targeting them.

The third section of the aircraft is managed by the special evaluator. This cryptologic officer manages six uniquely trained CTs, known as special operators. They are responsible for less conventional intelligence collection, which provides an indispensable component to the mission aircraft's safety. Information from the special operators also feeds, through the special evaluator, to the SEVAL for evaluation and distribution to supported assets.

Additionally, one to two in-flight technicians fly on missions. They are experienced avionics technicians who troubleshoot in-flight problems with avionics and mission equipment, providing a fix-on-the-fly capability that often allows the crew to continue the mission.

Aircrews need aircraft, and aircraft need maintainers. The unique operations of VQ-1 put special demands on its maintainers. They are required to go on detachment

to both Southwest Asia and Japan, but once there they may be called on a moment's notice to another even more remote location. A great advantage to the EP-3E is that those who operate the equipment—flight engineers, EWOPs, in-flight technicians—are also those who maintain it. This makes the platform responsive to changes in the world and flexible in deploying to varied operational sites. While a crew and aircraft can operate at a remote site for extended periods of time, engines must still be changed and broken flaps repaired. For these tasks, a full complement of maintenance personnel must be available. These maintainers spend an average of 22 weeks a year deployed overseas. "We spend as much time in the air as we do on the ground," noted maintainer AMS1 Ricky Admire. "Sometimes we feel like Ping-Pong balls because we are moving so much."

The reconnaissance mission is dynamic. The men and women of VQ-1 understand the importance of their role in the total military concept and accept the hardships required to get the job done—and to be the best in the world doing it. On a stage where programs must be constantly scrutinized and intelligence information is becoming more and more valuable, reconnaissance squadrons such as VQ-1 are beginning to play a more obvious role—stepping out of the shadows and into the spotlight. ✪