

# P-8A Poseidon

**Definition:** The P-8A Poseidon is a U.S. maritime patrol aircraft (MPA) based on the 737 airliner. It is produced by Boeing.

**Features:** The P-8A, also known as the Multi-mission Maritime Aircraft (MMA), is designed to replace the P-3C in the primary roles of anti-submarine warfare (ASW) and anti-surface warfare (ASuW), as well as perform ISR missions. Based on the 737-800ERX airliner, the aircraft has same range and loiter time as its predecessor - 1,200nm with four hours of loiter - but the P-8's higher cruising speed enables it to transit the distance in 1.5 hours instead of 2.5, which allows the orbit to be maintained with two P-8s instead of three. In addition, the aircraft requires a crew of nine rather than 11, as the P-8 does not require flight engineers, and features superior ergonomics, increased automation and decreased vibration for minimizing crew fatigue. The Poseidon also has a 50,000-lb. higher maximum takeoff weight and is

proven more reliable. It can carry 120 sonobuoys and process 64 of them simultaneously through five networked, interchangeable work stations.

Increment 2, scheduled to reach IOC in Summer 2016, expands the aircraft's ASW capabilities, adding two major batches of technology. The first of these batches will enable the aircraft to perform ASW over wide areas and from high altitudes. Whereas the P-3 operates at 2,000 ft., the P-8 will operate primarily above 10,000 ft. The aircraft employs the same three types of sonobuoys as the P-3: the SSQ-53 Passive Directional Low Frequency Analyze Record (DIFAR) buoy; the SSQ-62 Directional Command Active Sonobuoy System (DICASS) and the SSQ-101 Air Deployed Active Receiver (ADAR).

In addition, Air-launched Assembly (ALA) kits will be added to the aircraft's Mk. 54 torpedoes. This kit consist of a GPS sensor and guidance fins, which allow the weapon to be released at high altitude and still enter the water at the optimal point for interception for a subsurface target.

The other new capability being added as part of Increment 2 is referred to as multi-static, active coherent (MAC) technology. Conventional sonobuoys operate in a monostatic manner: each buoy emits a ping, listens for its own return and transmits to the monitoring aircraft. Under a multi-static system, sonobuoys listen for the reflection of pings emitted by other buoys. MAC was fielded on the P-3 in June 2014. Phase I of Increment 2 for the P-8, delivered in February 2015, rehosts the same software on the P-8. Phase II, scheduled for completion in December 2015, upgrades



Photo credit: U.S. Navy

protected against infrared-guided missiles by an AAQ-24 Directional Infrared Countermeasures (DIRCM) system.

The Poseidon's mission systems are being developed in increments. Increment 1, with which the aircraft declared initial operational capability (IOC) in November 2013, "re-constitutes" the P-3's capabilities but also improves them in several regards. The aircraft's APY-10 surface search radar is an upgrade of the P-3's radar and enables surveillance of maritime, littoral and overland environments. Its MX-20HD EO/IR turret also is an improvement on the MX-20 carried by the P-3. A new capability not carried on the standard P-3C is the P-8A's electronic support measures, which were developed from those on the EA-18G Growler.

For ASW, the P-8 has twice the sonobuoy capacity and twice the display space of its predecessor and the equipment has

the operator-machine interface for the system. Deliveries of the Increment 2 upgrade kits are projected to run from 2QFY15 to 1QFY18.

Increment 3 will deliver more ASW capabilities but will focus on improved communications and ISR sensors. It may also include the addition of an "Unmanned Targeting Air System (UTAS) Future Naval Capability (FNC)" - a MAD-equipped UAV that could be launched and controlled by the P-8. The upgrade is scheduled to reach Milestone B in 2QFY17, Milestone C in 2QFY19 and IOC in FY21.

**Production and Delivery Status:** First flight of the P-8A occurred on April 25, 2009. Six aircraft were produced as part of the system development and demonstration phase. As

**Continued, Page 8**

## P-8A Poseidon, Continued

of January 2015, a total of 61 production aircraft had been ordered by the U.S. and India, and 27 delivered. Aircraft are currently being delivered at almost 1.5 per month. In addition, Australia is already participating in the development of the aircraft's technology, has announced a decision to procure the aircraft and is expected to finalize its first contract in summer 2015.

The U.S. Navy's program of record calls for 117 production P-8s to be acquired; however, the FY16 presidential budget request (PBR) reduced the planned procurement to 109, ending in FY19. As of April 2015, the Navy had placed orders for a total of 53 production aircraft. Deliveries began in July 2012 and as of January 2015 had reached 21.

In January 2009, India purchased eight P-8Is from Boeing with an option for four more in a deal valued at \$2.1 billion. Three aircraft were delivered in 2013 and another three in 2014 and the final two are anticipated to be delivered in 2015.

India's version - the P-8I Neptune - incorporates some unique design features as well as some indigenously built subsystems tailored for the country's maritime patrol requirements. These include an aft radar and tail-mounted MAD.

On Feb. 21, 2014, the Australian prime minister announced

approval for an acquisition of eight P-8As with an option for four more under an initial AUS\$4 billion program. Canberra signed an advanced procurement contract for four aircraft in August 2014 and is expected to fully definitize the procurement contract in summer 2015, in time for the aircraft to be produced as part of FRP-2. Also expected in 3QFY15 is signature of the advanced procurement contract for the next four aircraft, to be produced as part of FRP-3; a final contract is expected to follow in summer 2016. Deliveries of the eight aircraft are expected to occur from 2017 to 2021. The option for the four more will be made in early 2016, pending the outcome of Canberra's 2015 Defense White Paper review.

—Dan Katz



All Program Dossier data are excerpted from the Aviation Week Intelligence Network ([awin.aviationweek.com](http://awin.aviationweek.com)). To learn how to receive full access to dozens of updated online profiles of major international defense programs, call +1 646-291-6353 or email [anne.mcmahon@aviationweek.com](mailto:anne.mcmahon@aviationweek.com).

# AVIATION WEEK *Laureate Awards*

*March 3, 2016 • The National Building Museum • Washington, DC*

Honoring extraordinary achievements and significant, broad-reaching progress in aviation, aerospace, and defense.

Get the **recognition** you and your team **deserve** and submit your nominations by **October, 9!**

[www.aviationweek.com/laureates](http://www.aviationweek.com/laureates)

Powered by **Penton**

## Specifications: P-8A Poseidon

Designation:	P-8A
Name:	Poseidon
Manufacturer:	Boeing
Category/Type:	Maritime Patrol Aircraft
Crew:	9
IOC:	November 2013

### Dimensions and Weights

Length:	129.5 ft. (39.47 m)
Wingspan:	123.6 ft. (37.64 m)
Height:	42.1 ft. (12.83 m)
Weight (gross):	111,000 lb. (50,300 kg)
Weight (max take-off):	189,200 lb. (85,820 kg)

### Performance

Engines:	2 x CFM 56-7B
Thrust:	27,300 lb. each
Cruise Speed:	490 knots (564 mph)
Service Ceiling:	41,000 ft. (12, 496 m)
Range:	1,200 nm with four hours on station

### Avionics

Radar:	APY-10 Maritime, Littoral and Overland Surveillance Radar
Radar Warning Receiver:	
Infrared Countermeasures:	AAQ-24 Directional Infrared Countermeasures (DIRCM)
Other Avionics:	MX-20HD EO/IR Turret
	Link 16
	Link 11
Weapons:	Mk. 54 torpedoes
	AGM-84D Harpoon anti-ship missiles
Flyaway Cost:	\$180.8M (FY16 PBR projection for program average)
Gross Cost:	\$216.7M (FY16 PBR projection for program average)

**Source: Aviation Week Intelligence Network**

prepared by Dan Katz