

PUMA™ LE

LONG ENDURANCE

GROUP 2 CAPABILITIES GROUP 1 FOOTPRINT

The Next Generation in the Combat-Proven
Puma All Environment UAS Product Line

As Seen In
Jane's Defence Weekly

AV
AeroVironment™

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AeroVironment – A History of Innovation

California-based AeroVironment is a technology solutions provider delivering innovations at the intersection of future-defining capabilities, including robotics, sensors, software analytics and connectivity.

In the 1980s, AeroVironment created the first portable, hand-launched drone for data collection and transmission, and since then the company has

competed for and won nearly every U.S. Department of Defense competition for small unmanned aircraft systems (UAS) programs of record.

Building on that success, AeroVironment has grown to become a global leader in small UAS, tactical missile systems and high-altitude pseudo-satellites, serving defense, government, and commercial customers.

To date, more than 30,000 of AeroVironment's Raven®, Puma™ and Wasp® unmanned aircraft, which comprise its interoperable Family of Systems, have been deployed by every branch of the US military, and more than 45 allied nations.

Designed to deploy rapidly, deliver superior situational awareness and enhance operational effectiveness, these high-tech systems continue to protect soldiers, marines, airmen, naval and special operators across theaters of operation around the globe under the toughest conditions and in the harshest environments.

Incorporating digital encryption technology, AeroVironment's Family of unmanned aircraft systems provide secure communications between operator and aircraft to ensure mission success.

“Innovation is embedded into AeroVironment’s DNA and drives everything we do – from expanding the capabilities of small unmanned aircraft systems to creating new technology solutions that provide increased force protection across multiple domains. When the stakes are highest, customers trust AeroVironment’s UAS solutions to provide the actionable intelligence they need to proceed with certainty.”



WAHID NAWABI, PRESIDENT AND CHIEF EXECUTIVE OFFICER, AEROVIRONMENT



Across Group 1-sized UAS, AeroVironment's RQ-20 Puma All Environment (AE) has distinguished itself as one of the most recognized and combat-proven small UAS in the world, deployed by the U.S. Army, Navy, Air Force, Marines and Special Operations Command, as well as multiple allied nations.

Rugged, suited for multiple missions and designed to deliver critical intelligence, surveillance and reconnaissance (ISR) over both land and sea, the RQ-20 Puma benefits from AeroVironment's continuous improvement through block upgrades and system level enhancements that expand its operational flexibility to meet current and future customer requirements.

PUMA LE – EXPANDING CAPABILITIES

As the newest member of the Puma All Environment small UAS product line, Puma Long Endurance (LE) builds on the combat-proven Puma AE legacy with new capabilities, increased range, and multi-mission payload capacity.

Delivering Group 2 capabilities in a Group 1 footprint, Puma LE provides greater endurance and payload capacity than a typical Group 1 aircraft while retaining the light mission logistics, small launch and landing

footprint, and high degree of portability associated with Group 1 UAS.

With Puma LE, AeroVironment has expanded the envelope of flight endurance to 5.5 hours, more than double the available time on station of a typical Group 1 aircraft. Equipped with the Mantis™ i45 gimbaled electro-optical/infrared (EO/IR) sensor, Puma LE provides the warfighter with mission critical ISR, increased operational effectiveness, and rapid tactical response in virtually any environment.

Purpose-built from the ground up for multi-mission operations, Puma LE's 5.5 pounds of total payload capacity benefit from a ruggedized secondary payload bay that enables easy integration of third-party payloads with a dedicated power supply and ethernet connection.

Weighing just 22.5 pounds, Puma LE is rapidly deployable via hand or bungee launch, and can be operated with AeroVironment's common ground control station (GCS).

Additionally, its economical two-case packout contains everything needed to perform two complete 5.5 hour missions with a single aircraft and common GCS.

MULTI-MISSION CAPABLE

Puma LE's battery-powered propulsion system delivers 5.5 hours of flight time in all-environment conditions, with a standard operational range of 20 kilometers that can be increased to 60 kilometers when used with AeroVironment's Long-Range Tracking Antenna.

The aircraft is rated for use in wind speeds of 25 knots, one inch per hour of rain or snow, and temperature extremes of -29°C to +49°C for operation and storage.

While in flight, Puma LE is acoustically inaudible with a background noise of 65 decibels when flying at the standard cruise altitude of 500 feet above ground level at cruise speed.

Puma LE's total payload capacity of 5.5 pounds allows for up to 3.4 pounds of secondary payload capacity, which can be carried in addition to the standard Mantis i45 EO/IR gimbaled payload.

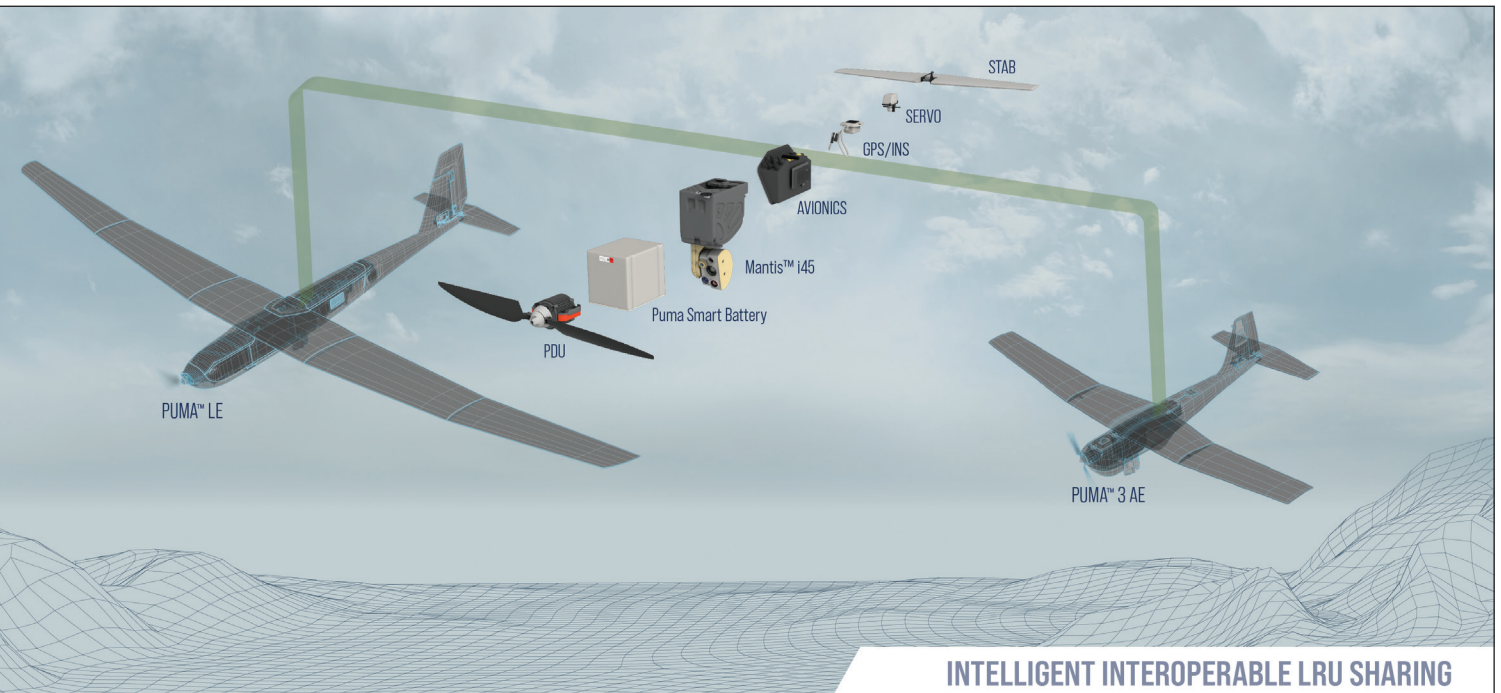
Alternatively, the Mantis i45 can be swapped out for the lighter Mantis i25 gimbal, or the aircraft can be flown without an ISR payload to maximize its 5.5 pounds of payload capacity.

To enable easy third-party payload integration, Puma LE's secondary payload bay is pre-wired for 18 Volts-24 Volts at up to 5 Amps, and includes an in-bay ethernet connection for payload communications.

This capability provides the flexibility for operators to incorporate specialized payloads, such as electronic warfare, radio frequency emitter geolocation, laser designation, communications relay and others. Together with the Mantis i45, the secondary payload bay dramatically increases

“AeroVironment continues to protect and enable the warfighter on the battlefield through advanced small UAS that deliver superior situational awareness and operational effectiveness. With Puma LE, we worked closely with our customers to create a UAS solution that’s adaptable to ever-evolving mission requirements.”

RICK PEDIGO, VICE PRESIDENT OF SALES AND BUSINESS DEVELOPMENT, AEROVIRONMENT



INTELLIGENT INTEROPERABLE LRU SHARING

Puma LE's operational capabilities through expanded ISR, enhanced target coordinate transfer, lethal response, or force protection.

PLUG AND PLAY INTEROPERABLE LRU COMPONENTS

Puma LE utilizes plug-and-play, interoperable, line-replaceable unit (LRU) components that can be inserted into other Puma AE aircraft. This native compatibility reduces training to a fraction of the typical learning time required for flight operators, as well as minimizes spares, repairs and logistical overhead requirements to support fielded systems.

In addition to ease of system adoption, current Puma AE customers can optimize their fielded systems by purchasing Puma LE as an add-on aircraft and easily install Puma AE LRU components. This gives field commanders the option to take multiple Puma systems downrange, select the appropriate aircraft based on the type of flight operation to be performed, and then simply swap-in needed LRU components to execute the mission.

SINGLE OPERATOR LAUNCH AND RECOVERY

The aircraft is hand-launchable by a single operator and comes equipped with a bungee launch system to aid launches at heavier gross take-off weights, or for a mission requiring a high launch elevation. This bungee launch system is also compatible with Puma 3 AE aircraft.

The Puma LE has both a manual and automated precision skid landing mode aided by the use of light detection and range sensing and reverse thrust technology as its standard recovery method. This allows for safe and precise aircraft launch and recovery in small, confined areas, reducing the burden on the warfighter and enhancing mission effectiveness.

GROUP 2 CAPABILITIES – ECONOMICAL GROUP 1 COST BASIS

Delivering Group 2 capabilities in a Group 1 footprint, Puma LE provides many of the capabilities that historically have only been available in larger Group 2

aircraft, but at a fraction of their procurement and operational costs.

With 5.5 hours of endurance, 5.5 pounds of total payload capacity, a dedicated secondary payload bay for multi-mission payloads, and an economical footprint, Puma LE redefines customer expectations for unmanned aircraft systems in ever-changing operational environments.

AEROVIRONMENT – INVESTING IN TOMORROW

Nearly 50 years since its founding, AeroVironment continues to be the pioneer and leader in unmanned aircraft technology for real-world missions where time is short and risk is high.

With a legacy that dates back to the first hand-launched data collection drone, AeroVironment continues to lead at the forefront of UAS innovation, setting the defining standard for reliable, secure and effective technology that enables its customers to proceed with certainty toward success.

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