AeroVironment’s Puma™ VNS is a visual-based navigation system for Puma AE small unmanned aircraft systems (SUAS). Puma VNS enables GPS-denied navigation across GPS-contested environments. The system performs Visual Inertial Odometry (VIO) through a suite of integrated sensors and an onboard compute module to determine the precise location of the aircraft during flight.

Designed to adapt to a continuously changing battlefield, Puma VNS will enable increasingly advanced navigation capabilities, features and functionality through future software and hardware updates. Available as an add-on option for new Puma 3 AE system orders and as a retrofit kit for fielded Puma 2 AE an Puma 3 AE aircraft.
Visual-based Navigation System for Puma™ AE

**Key Features**

- Zero pilot input required for seamless mission continuity through GPS-contested environments
- Two-piece low-SWAP retrofit kit on existing & new Puma™ AE
- Performs Visual Inertial Odometry (VIO) through onboard sensors to estimate true location without GPS
- Enables integration of future autonomy capabilities
- Minimal performance impact to Puma™ aircraft
- Compact—fits into existing Puma™ case for mission packout

**Specifications**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Endurance</td>
<td>2 hr (Puma 3 AE + VNS)</td>
</tr>
<tr>
<td>Installation</td>
<td>Initial factory or depot-level retrofit installation of external mounting pad then plug &amp; play field installation &amp; removal</td>
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<tr>
<td>Weatherization</td>
<td>All-weather (excluding water landing)</td>
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</tbody>
</table>

*Based on sea level mission with standard configuration and conditions

**Distinctions**

- **Compatibility**: Puma™ 2 AE & Puma™ 3 AE
- **Weight**: Operational: 1.2 lb (0.54 kg)

**Kit Includes:**

- EO Sensor
- Compute Module
- IR Sensor
- Laser Range Finder

**Visual-based Navigation System**

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