

Soldier Unmanned Aircraft System (SUAS)

Long-range, Medium-range, Short-range Systems

RQ-11B Raven, RQ-11 (MRR), SRR

The SUAS is comprised of three unmanned aircraft platforms; the legacy RQ-11B Raven, a Medium-range Reconnaissance RQ-11 (MRR) and the Short-range Reconnaissance (SRR). These are battalion and lower echelon organic assets, which provide reconnaissance, surveillance, target acquisition and enable force protection during day and night operations. The Raven RQ-11B, the MRR and the SRR SUAS are runway-independent, hand-launched systems deployed by maneuver forces to establish an immediate aerial vantage perspective with real-time imagery.

The Raven RQ-11B and the MRR systems are comprised of an air vehicle with an integrated gimballed Electro-Optical/Infrared (EO/IR) payload, and a Handheld Ground Control Station (H-GCS), GCS batteries, a field repair kit, and a spares package. The MRR will be a modified Raven RQ-11B that incorporates a U.S. Government-owned specification M1, 2, 5 radio module, flight control system and a government-owned open architecture H-GCS that replaces the OEM ground controller. The MRR and the RQ-11B are employed at the battalion level and below. The MRR modifications will bring the RQ-11 Raven into compliance with the Advance Wireless Spectrum mandate.

The MRR is designed to allow system, aircraft, and GCS assembly in approximately five minutes. Normal operations occur at 500 feet or lower, up to 90 minutes at a range up to 10 Kilometers. The MRR Unmanned Aircraft (UA) has a ruggedized, multi-axis Mantis i23 EO/IR gimballed payload which additionally provides a laser illuminator capability. The single payload replaces two separate sensor payloads on the Raven and MRR, delivering real-time video or infrared imagery to ground control and remote viewing stations. The MRR is operated by two Soldiers and has a rucksack-portable design. No specific military occupational specialty is required. Operator training requires ten days.

Units at the platoon level utilize the SRR to provide real time imagery and battlespace situational awareness through an EO/IR payload. This asset will provide reconnaissance and surveillance out to 3km with a 30 minute endurance to optimize small unit leader's decision making in the immediate sphere of influence. The SRR is an immediate launch asset with minimal logistics burden to the operator.

SUAS mission planning is performed on the hand controller or ruggedized H-GCS running Portable Flight Planning Software/Falcon View Flight Planning Software. Aircraft flight modes include fully autonomous navigation, altitude hold, loiter, and return home. In-flight re-tasking and auto-loiter at sensor payload point of interest are also available. Raven incorporates secure Global Positioning System navigation, and an encrypted Digital Data Link (DDL) to optimize spectrum management. DDL allows increased air vehicle density in an operational area, and extended range operations through radio relay between SUAS aircraft.

SUAS provides the battalion-and-below ground-maneuver elements with on-demand assets to develop situational awareness, enhance force protection, and secure routes, points, and areas. The system provides the small unit commander a responsive tactical recon capability through real-time, full-motion video and sensor data via the hand controller.



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