

PREDATOR EP MISSION AIRCREW TRAINING SYSTEM (PMATS XP)



PMATS XP delivers high fidelity simulation to Predator aircrews



L-3 Link Simulation & Training's Predator Mission Aircrew Training System (PMATS) XP is ushering in a new, advanced level of simulation to train pilots and sensor operators.

PMATS XP consists of a form, fit and function interface for the pilot and sensor operator stations that uses ground control station hardware from General Atomics Aeronautical Systems, Inc., builder of the Predator XP aircraft.

Link has integrated this hardware with training system software to produce a high fidelity training system that is unequaled within the unmanned aircraft system (UAS) market today.

As part of its high fidelity solution, PMATS XP models Predator vehicle systems and sensors. Robust environmental simulations support both initial qualification and mission training, including emergency and abnormal procedures training. PMATS XP also is integrated with instructional systems, including an Instructor Operator Station (IOS) that supports brief and debrief capabilities. To support collective training exercises, multiple PMATS XP units can be linked over both local and long haul networks for Distributed Mission Operations (DMO).

HIGH FIDELITY USER INTERFACE

For students training within a PMATS XP, the level of realism between simulated exercises and real world operations is transparent. Use of OEM production pilot and sensor operator station hardware ensures all training exercises have a realistic look and feel. As a result, pilots and sensor operators can easily transition to operating Predator or Reaper aircraft.

TRAINING ENVIRONMENT

Learning how to operate the UAS systems under a wide range of environmental conditions is key to mission success. As a result, Link has developed a PMATS XP training environment that accurately simulates real-world conditions that aircrews experience.

This high fidelity database environment simulates variations in thermals, slope winds, wind shear, visibility, icing and runway conditions.

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REALISTIC DATALINK

In an environment where the command and control data link is the pilot's and sensor operator's connection to the aircraft, Link has developed a data link model that enables the instructor to introduce realistic operational conditions. The capability includes selectable signal delay for both satellite uplink and down link, degradation, malfunctions, loss of link and remote video terminal (RVT) operation.



EMERGENCY PROCEDURES

PMATS XP allows instructors to introduce numerous comprehensive simulation-based emergency procedures and malfunction scenarios during a training exercise. As a result, students can undergo training - without putting UAS platforms at risk - that enables them to develop key competencies.



Instructors use the PMATS XP IOS to introduce aircraft, systems and sensor malfunctions or degradations. These malfunctions can impact control surfaces, engine performance, aircraft systems and a full range of sensors, including Day TV, infrared sensor, and synthetic aperture radar systems. PMATS XP also has a built-in capability to support future mission requirements, including multi-aircraft control.

INSTRUCTOR OPERATOR STATION

Link's PMATS XP IOS has been designed to support UAS operators' unique instructional requirements. The result: an easy-to-use IOS that provides extensive capability and rapid access to all instructional functions.

A single instructor can support crew training, two instructors can oversee individual pilot and sensor operator training or students can initiate their own training exercise. The IOS also enables instructors to set conditions or introduce malfunctions while viewing student behavior. The IOS also supports the ability to conduct playback for mission debrief.

DISTRIBUTED TRAINING

Simulation-based distributed training involving multiple platforms is helping warfighters better prepare for future coordinated actions. Link has designed PMATS XP to participate in this environment via DMO portals, enabling aircrews to conduct collaborative mission level training with other DMO-compliant platforms.

CONCURRENCY MANAGEMENT

PMATS XP supports system upgrades on the Predator XP vehicle. Easily updating PMATS XP is made possible through use of actual platform operational flight program software. Before system upgrades are fielded they may be verified on a PMATS XP development platform Link operates at its System Support Center. This thorough level of concurrency management supports modifications to the Predator XP upgrades.

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