

Powered Paraglider UAVs

Family of LEAPP™ UAVs

Overview

LEAPP™ is a Long Endurance Autonomous Powered Paraglider used for Intelligence, Surveillance, and Reconnaissance (ISR) missions, and distributive operations payload delivery missions. DARPA selected Atair to develop and manufacture the LEAPP UAV to perform as a cost-effective alternative to fixed-wing UAVs, and to provide long endurance loitering ISR capabilities of more than 48 hours. The DARPA LEAPP project resulted in the development of three sub-categories of LEAPP autonomous powered paraglider UAVs.



LEAPP (Type I)

The Atair LEAPP (LEAPP Type I) is a slow-flying, long-endurance powered paraglider UAV used for loitering ISR and distributive operations payload delivery missions. LEAPP is two-man deployable and transportable via a Humvee with trailer. LEAPP uses the largest elliptical paraglider wing ever built—the wing span is over 112 ft with an aspect ratio of 6:1.

To ground launch, the LEAPP is placed in a small clearing of approximately 150 ft². The wing is unfurled and laid out behind the vehicle. Take off occurs in 50-100 ft and does not require a paved runway. The LEAPP can operate fully autonomously or be piloted by remote control via a portable base station computer and advanced software which allows continuous tracking, mission and flight planning, video and data downlink. The vehicle may also be air-deployed from a C-130 or C17 at altitudes up to 35,000 ft using a 2.7 aspect ratio elliptical parachute. Mission critical features include (48+) hour endurance, along with payload capacity for 250 lbs of surveillance equipment and 2,145 lbs of fuel.

Other variants of LEAPP are available to trade endurance for increased cargo capacity.



Technical Specifications	
Length	~105"
Width	~82"
Height	~95"
All Up Weight (AUW)	3600 lbs
Power	180 Hp turbo & super charged diesel / 24 V 200 A alternator
Endurance	48-55 hours flight time
Payload Capacity	250 lbs of surveillance equipment and 2,145 lbs of fuel
Ceiling	52,000 ft

For more information, visit www.atair.com.

Insect (Type II)

The Atair Insect (LEAPP Type II) is a slow-flying, long endurance powered paraglider UAV platform that is used for ISR and distributive operations payload delivery missions. Insect is two-man deployable and transportable via a Humvee. The wing span of the elliptical canopy is 65 ft with an aspect ratio of 6:1. To ground launch, the Insect is placed in a small clearing of approximately 150 ft². The wing is unfurled and laid out behind the vehicle. Take off occurs in 30-60 ft and does not require a paved runway. The Insect can operate fully autonomously or be piloted by remote control via a portable base station computer and advanced software which allows continuous tracking, mission and flight planning, video and data downlink. Mission critical features include up to 34 hours of flight. Optionally piloted and airdroppable variants are available.



Technical Specifications	
Length	~70"
Width	~54"
Height	~60"
All Up Weight (AUW)	~1200 lbs
Power:	55 Hp 2-Cycle Rotax engine
Endurance	34 hours of flight time
Payload Capacity	200 lbs of surveillance equipment and 400 lbs of fuel
Ceiling	17,000 ft

Micro LEAPP (Type III)

The Atair Micro LEAPP (LEAPP Type III) is a slow-flying, light-weight powered paraglider UAV platform used for reconnaissance and scouting missions. Micro LEAPP is one-man deployable and is transportable using a backpack. The elliptical canopy is 85 sq ft with an aspect ratio of 4:1. To ground launch, the vehicle is placed in a small clearing of approximately 20 ft². The wing is unfurled and laid out behind the vehicle. Take off occurs in 5-10 ft and does not require a paved runway. The Micro LEAPP can operate fully autonomously or be piloted by remote control via a portable base station computer and advanced software which allows continuous tracking, mission and flight planning, video and data downlink. Mission critical features include ~4 hours of flight time, and payload capacity for 30 lbs of surveillance equipment. Micro LEAPP can also be air-deployed.



Technical Specifications	
Length	~40"
Width	~25"
Height	~30"
All Up Weight (AUW)	~75 lbs
Power	8 Hp 2-cycle gas engine
Endurance	>4 hours flight time (depending on fuel fraction)
Payload Capacity:	30 lbs of surveillance equipment
Ceiling	12,000 ft

Custom Applications

Atair's LEAPP UAVs can be modified to meet size and payload requirements with vehicles as light as 40 lbs, and heavy as 3,000 lbs. Atair's LEAPP UAVs can be outfitted for ISR and/or distributive operations missions. Please contact Atair to discuss your specific UAV application requirements.

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