



## **MAGLINE** Professional VTOL UAS System

UAV theatre operations

Low Cost Unmanned VTOL System

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Magline's Ares VTOL UAS System has been conceived as ready to fly UAS system, with high standard integrated payloads.

Features integrated Flight Control System FCS, and Gyro stabilized Gimbals, for enhanced day/night vision capabilities.

Other equipment integrated as Turn Key solution, allow the End User to deploy UAS in the field for sustained data acquisition.

Specific mission management equipment such as Mode C ADS-B transponders and video transmitters (dual simultaneous digital channels in one transport stream) are integrated as part of the COTS solution.

Demo tests are available upon request, however appropriate export license may apply for a demonstration to be scheduled accordingly.



# Integrated Items

Equipment	Description	Availability	Integrated
Platform	<ul style="list-style-type: none"> <li>• Ally Chassis &amp; Rotor Head</li> <li>• Oversized gears</li> <li>• Zenoah 80cc petrol engine</li> <li>• Unleaded fuel high performance</li> <li>• ECU + EFI</li> <li>• Generator</li> </ul>	Yes	Yes
Electrical Kit	<ul style="list-style-type: none"> <li>• Batt &amp; Power Boards</li> <li>• AP/Servos/Payload wiring</li> </ul>	Yes	Yes
Comm Kit	<ul style="list-style-type: none"> <li>• Video-Data antenna</li> <li>• Extra Channel antenna</li> </ul>	Yes Yes	Yes
Integration Settings Model	Depending on mission types it can be refined for purpose build operations.	Yes	Yes
Autopilot	VTOL Autopilot Incl Futaba CAG 10 Transmitter for manual operation	Yes	Yes
Autoland: DGPS Laser Alt	<ul style="list-style-type: none"> <li>• DGPS: 2cm accuracy</li> <li>• Laser Alt: 10Hz</li> </ul>	Yes Yes	Yes
Navigation System	Piccolo Command Center	Yes	Yes
Camera Payload	<ul style="list-style-type: none"> <li>• Gimbals <a href="http://www.cloudcaptech.com">www.cloudcaptech.com</a></li> <li>• Retraction systems</li> </ul>	Yes Yes	Yes
Camera Software	Viewpoint	Yes	Yes
Video System Transmitter Receiver	Digital Dual Simultaneous channel	Yes	Yes
Tracking Antenna	<ul style="list-style-type: none"> <li>• Video &gt;55 Km, with 22bd tracker antenna</li> <li>• Video Omni (for close range comms).</li> <li>• Data &amp; Video Dish on Pan &amp; Tilt positioners</li> </ul>	Yes	Yes
Tracking Antenna Software	Plugin for PCC	Yes	Yes
GCS	Portable GS Fixed Ground Station (2 std working areas).	Yes Yes	Yes Yes
Ground Equipment	Power Gen Set	Yes	Yes
Training Package	<ul style="list-style-type: none"> <li>• End User</li> <li>• Integrator Level</li> <li>• Analyst Level</li> </ul>	Yes	Yes
Carrying Cases	For delivery and long haul	Yes	Yes



Avionics crashworthy box



Zenoah Integrated ECU-CAN BUS



Overall Systems arrangement

# Performance & Data

VTOL UAS

Data	Performance (verified)	Comments
Empty Weight	25Kg Light weight version <25Kg development in progress	No fuel, no payload
MTOW	35Kg MTOW	Recommended for long endurance: 5ltrs of fuel, 5 Kg Max payload
Rotor Diameter	2.5m rotor diameter	
Range @MTOW w max. payload	• 1h (+ with Max Payload)	• battery set with onboard generator (1000W)
Range for Lost Communications	• 50Km data link, non interrupted line of sight • Optional data link with Iridium sat comms	Beyond line of sight flight required clean line between the GCS antenna and the aircraft.
Range for Video Communications	• Digital Dual video link (simultaneous channels) • 50 km (as requested by mission parameters)	Video performance requires also clean line between GCS antenna and the aircraft.
MaxCruise Speed	• 85 kmh	
Cruise 65% pwr Cruise 75% pwr	• 55 km/h • 64 km/h	
Setup time (1Pax)	15 min	
Total Number of Boxes / Cases	Aircraft, Portable GCS+ computer, Tracking Antenna, Dish, Power Gen Set, UPS	
Fuel Consumption	4.5kg/h (up to 7kf/h during hover)	Tbd for ea different configuration

- Specs depend on final configuration and subjected to component availability.

