

MAGLINE Professional VTOL UAS System

UAV theatre operations

Low Cost Unmanned VTOL System

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.

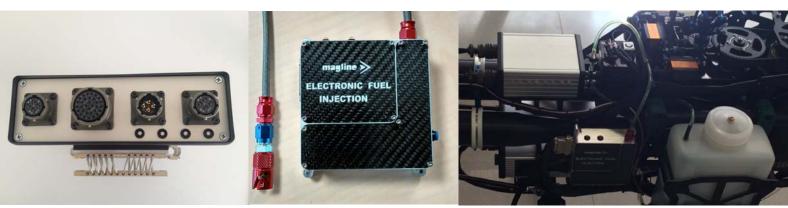
Specific mission management equipment such as Mode C ADS-B transponders and video transmitters (dual simultaneous digital channels in one transport stream) are integrated as part of the COTS solution.

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	Ally Chassis & Rotor Head Oversized gears Zenoah 80cc petrol engine Unleaded fuel high performance ECU + EFI Generator	Yes	Yes
Electrical Kit	Batt & Power Boards AP/Servos/Payload wiring	Yes	Yes
Comm Kit	Video-Data antenna Extra Channel antenna	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	DGPS: 2cm accuracy Laser Alt: 10Hz	Yes Yes	Yes
Navigation System	Piccolo Command Center	Yes	Yes
Camera Payload	Gimbals <u>www.cloudcaptech.com</u> Retraction systems	Yes Yes	Yes
Camera Software	Viewpoint	Yes	Yes
Video System Transmitter Receiver	Digital Dual Simultaneous channel	Yes	Yes
Tracking Antenna	 Video >55 Km, with 22bd tracker antenna Video Omni (for close range commns). Data & Video Dish on Pan & Tilt positioners 	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	End User Integrator Level Analyst Level	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.

