



Guardian UAV

OM UAV Systems

UAV SYSTEMS

Guardian UAV is small category UAV also called mini UAV. The craft is portable and can be operated in most terrains with small clearances because of short takeoff run portable GCS. Can be transported in a small vehicle. The airframe and part avionics have been designed and manufactured in India so the components and maintenance cost would be bare minimum. The autopilot has been developed in India so upgrade of software would keep the technology upto date. The propulsion system is all electric using high power electric motors powered by batteries that can be charged on field so the operations are simple. The GCS software and the autopilot software are windows based making it easier for most would be customers to use the system. The operational cost of the craft is bare minimum thus providing cost effective surveillance systems as compared to ground based vehicles.

OM UAV Major Advantages:

- The airframe and part avionics have been designed and manufactured in India so the components and maintainable cost would be bare minimum.
- The autopilot has been developed in India so upgrade of software would be a simple.
- The propulsion system is all electric so the field operations are simple.
- The GCS software and the autopilot software are windows based making it easier for most would be customers to use the system.
- The operational cost of the craft is bare minimum thus providing cost effective surveillance systems as compared to ground based vehicles.

Physical Specifications:

Wingspan	: 1980mm
Length	: 1200mm
Height	: 250mm
Flying Weight	: 2400 gms
Payload	: 300 gms
Propulsion	: 300Watt BLDC Motors @11.1 Volt
Battery	: Lithium-Ion 11.1 Volt, 13000mAh, Discharge @ 40A.
Propeller	: 10x6 Fiber Reinforced Nylon

Flying Characteristics:

Range	: 7.1 Km*
Endurance	: 60 Mins + 10 Mins reserve for failsafe
Accuracy	: within 10 Mtr. of programmed way point
Cruise Speed	: 48 Km/Hr
Max Speed	: 60 Km/Hr
Stall Speed	: 35 Km/Hr
Max Winds	: 20 Km/Hr
Altitude	: 3000 Meters

* Total Distance Traveled : 7.1Km + 7.1Km = 14.2 Km

Payload Options:

- Color video/Still HD camera with onboard HD video recording on 32 GB memory at 1280x720 pixels and AV out of 640x480 pixels. Can be programmed for still images with preset time interval. Max Video HD resolution of 2700 x 2000 pixels.
- Day Light/Low Light, 10x zoom color camera. Zoom controllable from the GCS, Radio Control with onboard HD Recording in *.Mov format.
- Thermal Camera (uncooled) 320x240 Res and 40deg FOV (Selectable) with athermal lens.
- Thermal Camera (uncooled) 640x480 Res and 40 Deg FOV (selectable) with athermal lens.



Capabilities:

- Fully Autonomous from Takeoff to Landing.
- Can be programmed for 300 Way points / Mission commands
- Can loiter over the subject at any way points
- Has manual control override at any stage.
- Can be "Guided" to specific location during flight by clicking over map.
- Can activate/deactivate any payload from the GCS.
- Auto payload activation on reaching the way point.
- Failsafe built in. Will "H" if link is lost. Will "Land" if battery is low.
- Radio Control switchable navigation lights.

Autopilot:

- Based on ARM Cortex M4 32 bit Processor @168 Mhz, running at 252 MIPS, with Real Time Operating System
- MPU-6000 InvenSense 3-D Six Axis, Dual Gyro+Acc
- uBlox GPS with positioning from GPSS, GLONSS, Galelio, Biedu
- Secondary GPS for backup (optional)
- HMC5883L 3-Axis Dual Magnetometer
- MS5611 High Resolution Barometer
- Onboard Micro SD card for Flight Data Logging

Radio Control Link:

Encoding	: PPM
Modulation	: FHSS
Freq	: 400-455 Mhz
Max RF output	: 1000 mW
Channels	: 8
Range	: 10 Km., when airborne.
Display	: Back - Lit LCD panel on Tx
Battery	: Li-Poly 11.1V, 2650 mAh (10 Hrs continuous operation.)

Video Link:

Type	: Analog audio and video
RF power	: 2000mW
Frequency	: 5.8Ghz, 32 Channels.
Power consumption	: 300mA @ 11.1 V
Video resolution	: 720x640 TVL
Camera Mount	: Gyro Stabilized on Pan, Tilt and Roll Axis
Recording	: Onboard recording on 32 GB SD Card in *.avi format.
Helical High Gain Antenna. (Circularly Polarized).	

Standard Package Contents:

- Guardian Aircraft 1 Nos.
- GCS consisting of windows based laptop and Video Monitor.
- Patch Video Antenna.
- Clover Leaf Video Antenna.
- Auto Antenna Tracker (optional).
- Yagi Antenna for Data Link.
- Microprocessor based battery Charger.
- Radio Control Transmitter.
- Mini Tool Kit.
- Semi Ruggedized Carry Box

Datalink:

Output Power	: 1000 mW (Configurable)
Modulation Type	: FHSS
Freq Band	: 900Mhz (885-915 Mhz)
Range	: 10 Km (with Yagi antenna)

Onboard Video Recorder:

- 32GB onboard micro SD card recording in .MOV format

Camera Gimbal:

- Gyro Stabilized on Roll and Pitch Axis. Microprocessor based. Correction rate of 2000 Deg/Sec. Common Gimbal for all cameras mentioned in the camera options list. Cameras are changeable in the field within very Five Minutes.



CUSTOM VIDEO LINK OPTIONS AVAILABLE

Note:

- Specifications subject to change without notice.
- All values & capabilities mentioned one under ideal test conditions.
- Optional items do effect pricing.





Guardian UAV



Our other products...



Curiosity Quadcopter UAV



Baaz Mini UAV



Guardian- Trainer



Curiosity Plus Quadcopter UAV



Kisan Crop Duster



Solo Multicopter



Surveyor-I



Pushpak Hexacopter



Kasper Autonomous 4WD Rover

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