Kasper Autonomous 4WD Rover

OM UAV Systems

Kasper is a FULLY AUTONOMOUS Mini Unmanned Ground Rover. It is capable of carrying a 500 Gram payload. The payload is a Day or Night Camera mounted on a pan/tilt gimbal. The Rover is electrically powered with a very low dB level. The Rover is fully autonomous right from start to end. The Rover is made of ABS Plastic and Glass Fiber Composites

Physical Specifications:

Length	:	350mm
Height	:	150 mm
Weight	:	1500 gms
Payload	:	500 gms
Power	:	500 Watt BLDC Motors @ 7.2 Volt
Drive Terrain	:	Full Time 4WD
Power Battery	:	Lithium-Poly 7.2 Volt, 3200mAh

Characteristics

Range	:	0.5 Km*
Endurance	:	20 Mins + 2 Mins reserve for failsafe
Accuracy	:	Within 3 meters of programmed waypoint
Cruise Speed	:	30 Km/Hr
Max Speed	:	50 Km/Hr
Altitude Ceiling	:	5000 Meters

*Total Distance Travelled: 5.0Km

Capabilities

- Fully Autonomous from Start to Return
- Can be programmed for 300 Waypoints
- Can Hold around the subject at any waypoint
- Has Manual over ride at any stage
- Can be 'Directed' to specific location during mission by clicking over map
- Can activate/deactivate any payload from the GCS
- Auto payload activation on reaching the waypoint
- Failsafe built in. Will 'RTH' if link is lost on the same return path

Standard Pacakge

- Rover Vehicle 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
- Aluminum Packing Case
- Video Packing Box

Datalink

Output Power	:	100mW (Configurable)
Modulation Type	:	FHSS
Freq Band	:	900 Mhz (885-915 Mhz)
Baud Rate	:	19,200kbps (Selectable)
Range	:	0.5 Km (with Yagi Antenna)

Autopilot

- Based on ARM Cortex M4 32 bit Processor @168 Mhz, running at 252 MIPS, on NuttX Real Time Operating System
- ST Micro L3GD20, 3-Axis Gyro
- MPU6000, Invensense 3-Axis Gyro +Accelerometer
- High Accuracy, uBlox GPS with positioning from GPSS, GLONSS, Galelio, Biedu
- HMC5883L 3-Axis Dual Magnetometer (Dual)
- MS5611 High Resolution Barometer
- Onboard Micro SD card for Data Logging

Video Link

Type	:	Digital Secured Video (Wi-Fi based)
Rf Power	:	270mW
Frequency	:	2.4 Ghz, 40 Channels
Power Consumption	:	300mA @11.1 V
Video Resolution	:	1280x720 (HD)
Camera Mount	:	High Accuracy Gyro Stabilizatin on Roll and Pitch Axis
Recording	:	Onboard recording on 32 GB SD card in *.avi format

Radio Control Link

Encoding	:	PPM
Modulation	:	FHSS
Freq Band	:	2.4 Ghz
Max Rf Output	:	100mW Max
Channels	:	8
Manual Control Range	:	0.5 Km (only if Line of Sight)
Display	:	Back-Lit LCD panel on Tx
Battery	:	Li-Poly 11.1V, 2650 mAh (12 Hrs continuous operation)

Onboard Video Recorder

- 32GB onboard micro SD card recorder. H.264 compression. *.avi format

Camera Gimbal

- Pan/Tilt controllable from GCS

Payload Options

- Option 1: 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

- Option 2: Thermal Camera (uncooled) 640x480 Res and 40 Deg FOV (selectable) with athermal lens

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Our other products...

Baaz Mini UAV

Guardian Civilian UAV

Guardian- Trainer

Curiosity Plus Quadcopter UAV

Kisan Crop Duster

Solo Multicopter

Surveyor-I

Pushpak Hexacopter

Curiosity Quadcopter UAV

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