

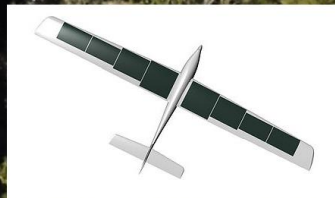
Specifications

- **Solar Panel Endurance Increase**
96 Watts from 110 grams of solar panels which enhances endurance to unprecedented levels. Reliable figures can't be given as this is proportional to available sunlight and sun angles. In optimum conditions, 6+ amps is possible, exceeding/matching the average cruise current in straight and level flight. All air vehicles are solar panel capable and can be retrofitted.
- **Easy to assemble with no tools required.**
Time is money, we have designed the Hawk GS1000 to assemble in less than 5 mins.
- **Hand launched.**
Costly catapults and bungees complicate the launch process. Hand launching allows for flexibility in selecting launch location.
- **Parachute recovery for light winds -steep approach for high winds.**
In light winds, parachute is recommended and is a very reliable method. In heavy winds, this is not so effective. Skid landing with controlled steep descent allows for clearance of obstacles and safe recovery. This increases customers weather window for commercial operations.
- **Water resistant pitot tube to ensure accurate airspeed.**
If this is blocked by rain (in any aircraft), then the autopilot receives bad airspeed information which can impact on flight safety. Our unique Pitot tube design prevents this from happening and has performed flawlessly in thunderstorms and many heavy rain events for over a decade..
- **Internal airflow cooling for hot weather operations (up to 50° C).**
The NACA vent provides airflow over the speed controller, avionics and sensors to ensure electrical efficiency. The Hawk GS 1000 is able to operate in very high temperatures but most sensors can have degraded performance above this temperature.
- **New Lithium ion technology with 40% increased battery capacity.**
(4C) 14000 Milliamps for 802 grams. Differing configurations are available depending on sensor configuration. Up to 28000 Milliamp configuration is possible with low weight sensors.
- **Certified integration and factory assembly.**
Fieldair Engineering Limited (Avionics Integration) are a NZ CAA Part 148 certified maintenance and aviation engineering company. All components are codified for fleet maintenance management.
- **Strobe light for increased visibility.**
Red LED strobe can be controlled by the ground control station. Military variants can be equipped with IR strobe.
- **Differential GPS for accurate camera positions.**
For processing imagery, accurate camera position reduces ground control requirements and speeds up processing.
- **Rugged Kevlar Carbon fibre construction.**
Carbon fibre and Kevlar construction for rugged strength at low weight.
- **Internal Servos.**
Servo linkages are all internal to reduce drag and vulnerability to damage and debris. All are easily accessible. All servos are tested thoroughly before assembly.



Wingspan	2.9m
Length	1.35m
Weight	5.2 Kg
Cruise Speed	60 Km/hr
Endurance	180 mins
Link range	30 Km
Service Ceiling	14000 feet.

- **Delivered in a standard Pelican 1770 case**
Standard case includes internal foam for secure transport and easy assembly cradle frame to keep UAV off the ground in the field.
- **Full documentation.**
Field Check list, expanded checklist and maintenance manuals provided to all customers. Each system ships with a Tablet containing all documentation and reference material.
- **Access to premium image processing support.**
Hawkeye Systems provide enterprise image processing support to customers who capture large projects. We have established this to match the significant increase in amount of imagery captured by customers with solar panel equipped systems.
- **Cruise at 60-65 Km/hr.**
Ideal airspeed to ensure capture speed at 400 feet AGL does not outstrip camera firing rate.
- **Potential Range from ground control 30 Km +**
Freewave data modems are 'spread spectrum frequency hopping' ensuring good quality data link .
- **Lift soaring capability to increase endurance.**
This feature essentially absorbs free lift in the atmosphere reducing energy consumption of the electric motor, sometimes increasing endurance by 15-20%
- **Flight safety features:**
 - Self testing on start up,
 - Dynamic range and battery status,
 - Return on home in the event of link failure
 - Independent parachute release if total power loss.

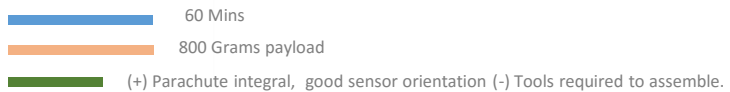


Eleven years of experience counts. Systems provided by Hawkeye have moved with the times taking advantage of new sensors, materials and technology. Previous systems were embedded into either military or commercial markets for long periods to establish baselines of viability and operational performance. The new HAWK GS 1000 is a response to trends in the market and new exciting technologies such as 3D virtual world capture and solar panels.

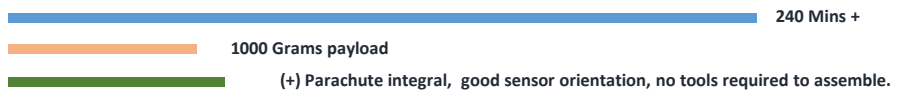
Gen 1 –Kahu 2005 - 2010



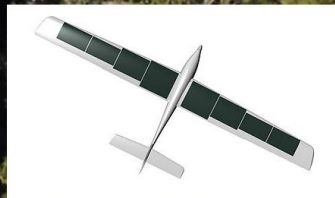
Gen 2 –AreoHawk 2010-2015

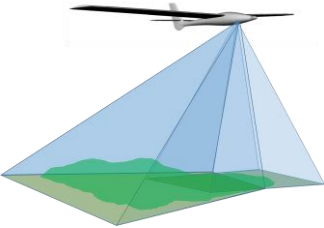


Gen 3 HAWK GS 1000



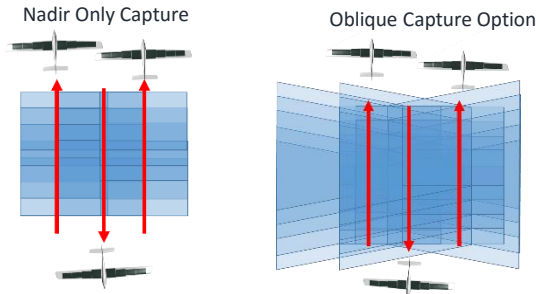
- **Multiple Ground Control Station Capability**
Data modems can be used to text between ground control stations and hand over occurs in a controlled manner. This allows customers to launch and recover in areas separate from the task site and have observers that can control the UAV for safety reasons.
- **ArcGIS Integration**
ArcMap from ESRI is used as the navigation map technology opening up a rich data environment. Aside from standard background maps, project data such as customer defined areas, and control points can be added as standard GIS data layers.
- **X Plane Flight Simulator**
UAS operational training and currency benefit highly from simulation. A fully immersive PC based simulator is supplied. Typically 8-12 hours of simulation time has most operators ready for flight.





○ **Oblique Camera Configuration**

3D Virtual terrains benefit greatly from oblique imagery for richer data capture. This also optimises the Hawk GS1000 for linear feature acquisition reducing the number of passes required for high density overlap missions. **Current Sensor: A5100 24 Megapixel DLSR in single or dual configuration**



○ **Quality Lenses**

A great deal of care and attention is taken to ensure the highest quality lenses are used with low distortion. This enhances acquisition efficiency, relative accuracy of photogrammetry point clouds and good quality ortho imagery. **Current Lens is Voitlander 15mm Version 3**

○ **Sentek Multispectral Sensor**

The Sentek GEMS multispectral camera has been fully tested and tried under harsh commercial conditions in NZ and has performed flawlessly. The new GEMS sensor is fully integrated into the Hawk GS1000 and available in two lens configurations **30° and 60°**. Sentek GEMS has very high quality filters for multispectral analysis.

○ **Custom Camera Configuration**

Specialist markets may require a unique sensor or modification of existing systems. Geospatial FLIR cameras will be available for third quarter 2016 for thermal imaging markets. Contact us for specific requirements.

