



# DAGGER

Advanced Surveillance / Sensor / Cargo UAV

- Fixed Wing + Canard
- Multiple Propulsion Methods
- VTOL Option
- High Endurance

[CANNONDYNAMICS.CO.UK](http://CANNONDYNAMICS.CO.UK)

## DAGGER RANGE

Advanced Surveillance / Sensor / Cargo UAV

### What is the CANNON DAGGER?

**CANNON DAGGER is a multi role, modular flying system, designed for challenging missions, designed to meet the challenges of military missions and civil operations around the world.**

DAGGER provides excellent flight characteristics and is highly responsive. The canard provides additional control surfaces at the front of the aircraft, contributing to improved manoeuvrability.

This is especially beneficial when combined with a swept wing, allowing for effective control at various angles of attack.

The canard design contributes to better control during approach and landing, allowing for slower landing speeds, which can be advantageous in situations where short take-off and landing distances are required.



**DAGGER 20**



**DAGGER 27**

## KEY FEATURES



- **Lightweight and Durable Frame**  
Built from GRP, DAGGER offers excellent rigidity for reliable performance while maintaining flexibility and reducing weight for longer, more efficient flights.
- **Stable Flight**  
DAGGER is capable of maintaining stable flight even in challenging weather conditions, ensuring dependable performance in outdoor operations.

**Featuring multiple propulsion options, DAGGER is a high endurance, stable, fixed wing aircraft.**

DAGGER is adaptable for a diverse range of applications that require both flexibility and endurance.



# DAGGER 20

Advanced Surveillance / Sensor / Cargo UAV

10hrs +

Flight Duration

10hrs +

Flight Duration (payload)

5kg

Payload capacity

## DAGGER 20

**The DAGGER 20 is a versatile Fixed Wing with Canard UAV with long endurance and flight times.**

DAGGER is powerful and efficient with great flight characteristics and long endurance.

Versatile and able to carry a range of payloads, DAGGER is adaptable to a range of missions.

900km +

Range

2.0m

Wingspan

# DAGGER 27

Advanced Surveillance / Sensor / Cargo UAV



10hrs +

Flight Duration

## DAGGER 27

The DAGGER 27 is a versatile Fixed Wing with Canard UAV with long endurance and flight times.

DAGGER 27 shares many of the great features of its smaller sibling but boasts a greater wingspan and payload capacity.

10hrs +

Flight Duration (payload)

7kg +

Payload capacity



900km +

Range

2.7m

Wingspan

# FEATURES AND SPECIFICATIONS

## BENEFITS AND CHARACTERISTICS

### Features

- Portable, easily handled equipment, transported and protected in convenient carrying cases
- Large capacity fuselage, long missions or large payloads as required
- Very low magnetic signature for magnetic surveys / mapping or stealthy surveillance
- Dual redundant control surfaces for extreme reliability
- Electric, single or coaxial, or EFI IC Petrol Twin cylinder pusher engines
- The VTOL Co-Ax version Combined with a hybrid power system this versatile UAV becomes a 'Quad' drone platform. Launcher versions also available along with STOL and STOVL.
- Long flights bringing large UAV performance to commercial users, BVLOS and Aircraft DAA capabilities to suit the client's mission objectives.

### Specifications

Model	DGR-20 Electric	DGR-20 Internal Combustion Engine (ICE)
Frame Length	1500mm	1500mm
Wingspan	2000mm	2000mm
Frame Weight	6kg	6kg
Take off Weight	15kg	15kg
Frame Material	GRP	GRP
Propulsion	Electric / Twin Electric (VTOL Opt)	4 stroke EFI
Flight Time	2hrs +	10hrs +
Flight Range	900km (560mi) +	900km (560mi) +
Payload	5kg	5kg
Cruise Speed	80kmh (50mph)	80kmh (50mph)
Max Flying Speed	135kmh (84mph)	135kmh (84mph)

Model	DGR-27 Electric	DGR-27 Internal Combustion Engine (ICE)
Frame Length	2200mm	2200mm
Wingspan	2700mm	2700mm
Frame Weight	6kg	6kg
Take off Weight	16kg+	16kg+
Frame Material	GRP	GRP
Propulsion	Electric / Twin Electric (VTOL Opt)	4 Stroke EFI
Flight Time	2hrs +	10hrs +
Flight Range	900km (560mi) +	900km (560mi) +
Payload	7kg +	7kg +
Cruise Speed	80kmh (50mph)	80kmh (50mph)
Max Flying Speed	135kmh (84mph)	135kmh (84mph)

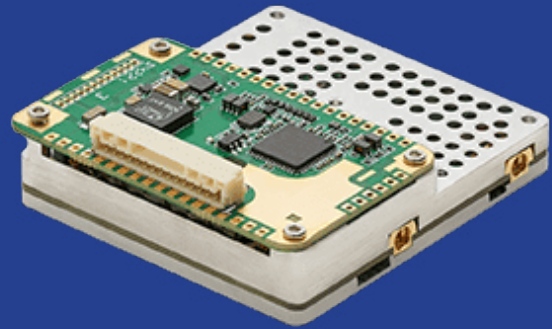
# TYPICAL MISSION PACKAGES

## RADIO / COMMUNICATIONS

### Radio

**High quality radio communications ensure a responsive and stable flight**

Secure and reliable radio communications



**A wide range of multi-band and single-band radios**

#### **Low Latency**

Low latency, designed for reliable, long-range applications with real-time, immediate information from nodes.

#### **Resilient Network**

Built-in spectrum scanner that monitors in-band interference and provides automatic band and channel switching capabilities.

Fine-tuned filtration and frequency-band shifting techniques are designed to minimize noise and block out-of-band signals.

With an advanced interference-avoidance feature-set, can even automatically switch to cleaner channels and bands of operation.

#### **Multi-Cast Video**

In a point to multipoint configuration, provides the ability to stream high quality video to multiple receiving nodes, from drones to numerous stakeholders on the ground.

# TYPICAL MISSION PACKAGES

## CAMERAS AND OPTICS

### Cannon SmartEye

Single, Dual or Triple-sensor gimbal cameras

10x to 80x Optical Zoom  
Up to 32x Digital Zoom  
Thermal imaging options  
AI Object Tracking and more ...

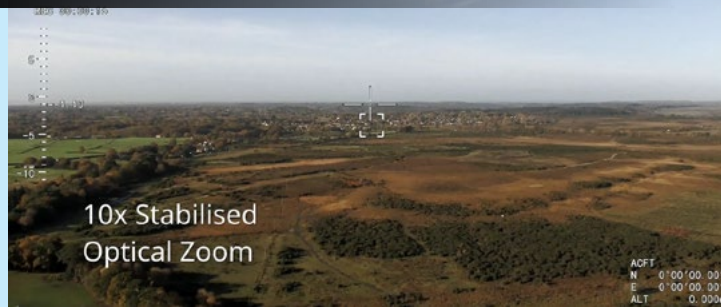
DAGGER can be fitted with a range of Cannon SmartEye cameras featuring single or multiple sensors, low-light vision, IR and thermal vision, tracking and more.

All cameras are gimbal mounted, packages range from under 200g to around 2kg.



### Powerfull Zoom Functions

10x Optical zoom (up to 80x available)  
32x Digital zoom



### AI Onboard Tracking

Identifies objects of interest using onboard AI tracking abilities

With one click the camera follows the object as both it and the aircraft move, the aircraft can be set to automatically fly to keep the object in view.  
Many gimbal options and targeting are available to suit mission needs.



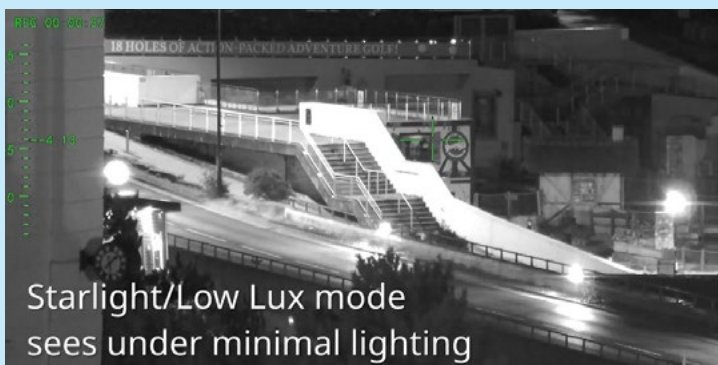
# TYPICAL MISSION PACKAGES

## CAMERAS AND OPTICS



**Picture in Picture**  
Identifies objects of interest using onboard AI tracking abilities

IR / EO Cameras may be used simultaneously to view scenes in both thermal and natural light, the zoom on the EO camera gives excellent details of targets from several km. The IR view makes it easy to detect hidden heat sources in undergrowth or at night.



**Low -light Operation**  
Identifies objects of interest using onboard AI tracking abilities

IR and Low light modes, In low light conditions the EO camera goes into 'starlight' mode - it can see much better than the human eye at night, combine this with Infra-Red mode and the scene is clear, objects and targets may easily be seen at long range.



### Infra-Red / Thermal

Selected models feature full infra-red and thermal vision capabilities



### Features and Benefits

- SD card support

# TYPICAL MISSION PACKAGES

## AUTOPILOT

### Autopilot

With this mission package the DAGGER can operate in autopilot mode

Pre-programmed flight paths or responsive flight instructions

### Multiple autopilot systems are available

Options vary between full 'remote pilot in control' through fully autonomous autopilot options. A choice of various Autopilots and Flight Controllers are offered to suit customers' needs; from low-cost commercial to full military specification GNSS, denied mission capable systems.

### Typical Features

Three Inertial Measurement Units (IMU) within the UAV autopilot system.

IMUs comprise a suite of sensors used in the Inertial Navigation System (INS).

Measuring orientation, velocity, and gravitational forces to aid navigation and control using the raw IMU measurements and sensors for extra redundancy.

The entire Flight Management Unit (FMU) and Inertial Management Unit (IMU) are housed in a small form factor housing.

Possibility to integrate alternate and multiple Global Navigation Satellite Systems (GNSS) from GPS (USA) and Galileo (EU) are available.

Clients preferring GLONASS (Russia) or BeiDou (China) can be accommodated.

# TYPICAL MISSION PACKAGES

## GROUND CONTROL STATIONS

### Ground Control Station

For control of your UAVs

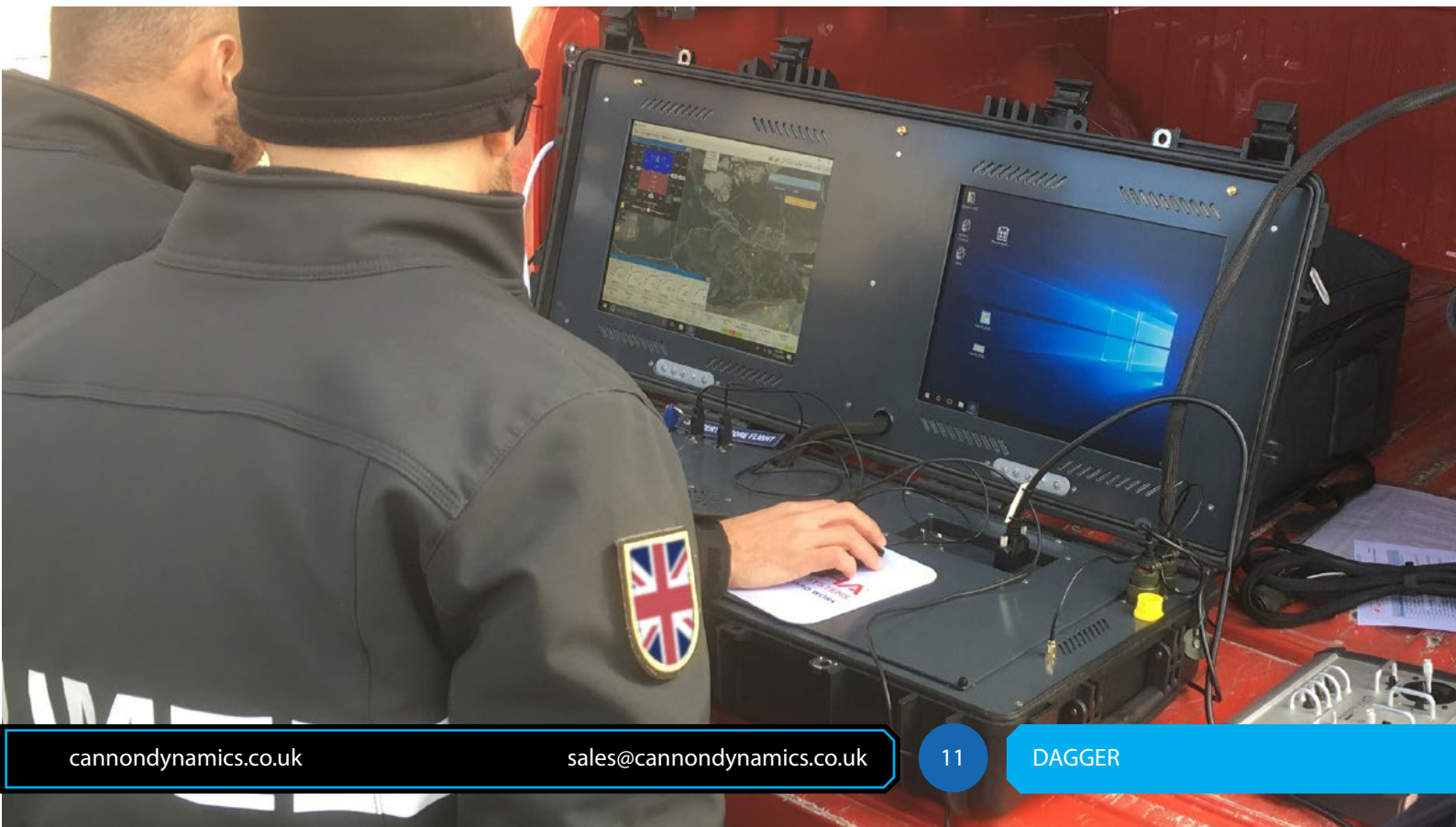
Multiple models available

**From a simple laptop or android handset to a full 40-foot container based mobile command and control center - Cannon Dynamics can provide a system that suits your needs**

The Cannon Technologies Group has been making Command and Control rooms for 40 years and has a wealth of experience in providing cutting edge data platforms in the most extreme of environments.

A Basic Configuration includes the components necessary for mission planning, control battery replacement and charging facilities, field level configuration changes, level maintenance and repair solutions including the necessary tools and spares.

Further configurations include anything from generators to operator basic accommodation to airconditioning if required and is completely scalable to the desired deployments.





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