

BUZZVIEW TECHNICAL DETAILS

TYPES OF OPERATIONS

The following paragraphs outline the types of operations conducted by the individual SUA platforms.

The Kraken 130

The Kraken 130 is intended to be used for cinematography, research sorties, inspection and aircraft testing. Its capacity is suitable for cameras ranging from a Canon 5D up to a Black Magic Cinematic 4K camera.

The TBS Discover/F450

The TBS Discovery/F450 Hybrid will be used in a similar role, but generally within more confined areas; i.e. inside buildings, or woodlands. It is equipped with a stabilised GoPro camera. In certain locations it may be used close to the general public, but at a safe distance, in accordance with the ANO and any specific criteria demanded by the UK-CAA.

Likely Operational Roles

The following are likely operational roles:

- Motion picture cinematography
- Broadcast television
- Industrial inspection of remote or hard to reach locations
- Thermal inspection of structures
- Remote sensing and photogrammetry
- Contaminant detection
- False colour imagery

Both platforms will be operated within the visual line of sight and if required, with special permission to work in built up areas, close to personnel within the control of the PIC. In all of these operations the PIC will ensure as reasonably possible the environments remain under his control, and that he will be satisfied that the safe conduct of any flight can be achieved.

Ground System Specification

Item	Type	Notes
Computer or base system	11" Asus X203E touch screen, Core i3-3217U CPU @ 1.8ghz, 4GB RAM, 500GB HD, External 27" Black Magic 4K LCD	The computer or system on which the software is running with any other relevant details such as screen size, memory, processor etc.
	Apple iPad Mini, 32 GB memory	
Operating System	Asus - Windows 8.1 iPad Mini – 7.1.2	The operating system, its version and update status.
Ground control software	DJI GS V4.0.9	The Ground Control Software remembering to provide the version number.

OPERATING LIMITATIONS AND CONDITIONS

Kraken 130

Parameter	Limit
Operational Ceiling	400 ft agl, or 10,400 amsl
Operational endurance	8-15 minutes, dependent on platform and battery
Maximum speed	20 knots
Maximum OAT	+40
Minimum OAT	-5C
Max Wind speed	15 knots

TBS Discovery/F450

Parameter	Limit
Operational Ceiling	400 ft agl, or 10,400 amsl
Operational endurance	8-15 minutes, dependent on platform and battery
Maximum speed	25 knots
Maximum OAT	+40
Minimum OAT	-5C
Max Wind speed	20 knots

Kraken 130 Aircraft Specification

Control System and Communication Specification

Item	Specification	Notes
Span / Diameter	1270 mm Diameter	This is diameter between propeller centres for multi rotor UAS in millimetres
Flight Test Weight (Kg)	19.0 Kg	Complete weight ready to fly for the UAS in kilograms
MTOM (Kg)	20.0 Kg	The Maximum Take Off Mass permissible for this UAS in kilograms as stated by the manufacturer.
Engine Type	Electric Brushless Motor	General specification
Number of Engines	8	The total number of engines fitted to the UAS
Engine Size/Type	T-Motor U7 420kv	Specific size of engine
Battery Type	Lithium Polymer Battery	UAS power source
Capacity	10000, or 16000Mah x 2	Size of battery power source
Voltage	22.2 volts	
Kv	420	
Propeller Size	8 x 18 x 6 Carbon Tractor	
Flight Controller	DJI A2, DJI Wookong M, 3D Robotics Pixhawk	Specific flight control system
Power (If separate)	Main Flight Pack	
GPS Unit	DJI A2 GPS	Specific GPS unit
Controller Type	Spektrum DX8	Specific Controller type
Receiver	Spektrum AR9020	Specific Control receiver
Ground Station Type	Active Full Waypoint	Active means you can alter the flight of the aircraft from the Ground station, via iPad Mini. Passive means it is used for monitoring the flight only.
Control Frequency	2.4 GHz	Specific frequency used to control UAS
Telemetry Link	TM1000	Specific Interface used for telemetry link
Telemetry Frequency	2.4ghz	Specific frequency used to provide telemetry link
Payload Link	IOSD Mini + 32CH TS832	Specific Interface used for payload data link
Payload Data link Frequency	5.8GHz	Specific frequency used to support payload data link

TBS Discovery/F450 Hybrid Aircraft Specification

Control System and Communication Specification

Item	Example	Notes
Span / Diameter	470 mm Diameter	This is the diameter between propeller centres for multi rotor UAS in millimetres
Flight Test Weight (Kg)	1.8 Kg	Complete weight ready to fly for the UAS in kilograms
MTOM (Kg)	3.0 Kg	The Maximum Take Off Mass permissible for this UAS in kilograms as stated by the manufacturer.
Engine Type	Electric Brushless Motor	General specification
Number of Engines	4	The total number of engines fitted to the UAS
Engine Size/Type	DJI E300 920kv	Specific size of engine
Battery Type	Lithium Polymer Battery	UAS power source
Capacity	3000mAh 3S x 2	Size of battery power source
Voltage	12.2 volts	
Flight Controller	DJI NAZA V2	Specific flight control system
Power (If Propeller Size separate)	4x 10x3.8 DJI 1058 Tractor Main Flight Pack	
GPS Unit	DJI NAZA GPS V2	Specific GPS unit
Controller Type	Spektrum DX8	Specific Controller type
Receiver	Spektrum AR9020	Specific Control receiver
Ground Station Type	None	Active means you can alter the flight of the aircraft from the Ground station. Passive means it is used for monitoring the flight only.
Control Frequency	2.4 GHz	Specific frequency used to control UAS
Telemetry Link	TM1000	Specific Interface used for telemetry link
Telemetry Frequency	2.4ghz	Specific frequency used to provide telemetry link
Payload Link	IOSD Mini + 32CH TS832	Specific Interface used for payload data link
Payload Data link Frequency	5.8GHz	Specific frequency used to support payload data link