



UNMANNED AIRCRAFT - OPERATIONAL AUTHORISATION


SPECIFIC CATEGORY

1.	AUTHORITY RELEASING THE AUTHORISATION
1.1. State of the UAS Operator	United Kingdom
1.2. Issuing Authority	United Kingdom Civil Aviation Authority
1.3. Authorising Signatory Point of Contact	Mark Wharry – UAS Unit Sector Team Lead SSC Technical Services 0330 022 1908 uavenquiries@caa.co.uk
2.	UAS OPERATOR INFORMATION
2.1. Operator Registration No. CAA Reference	OP-5FKFS96 UAS 1000
2.2. UAS Operator Name	Echo Alfa Ltd
2.3. Operational Point of Contact /Accountable Manager Name Telephone E-Mail	Adam Howard- Dobson 02080368965 adam@echoalfa.co.uk
2.4. Authorisation Number	1
2.5 Operations manual	EA-OSC-OM, Volume 1, Version 1.4, Dated 29 th June 2020 EA-OSC-AS, Volume 2, Version 1.4, Dated 29 th June 2020 EA-OSC-SA, Volume 3, Version 1.4, Dated 29 th June 2020
3.	UAS INFORMATION

3.1. Manufacturer	<table border="1"> <tr> <td style="text-align: center;">Aircraft 1</td> <td style="text-align: center;">Aircraft 2</td> </tr> <tr> <td style="text-align: center;">DJI Inspire 2</td> <td style="text-align: center;">DJI Inspire 2</td> </tr> <tr> <td style="text-align: center;">Aircraft 3</td> <td style="text-align: center;">Aircraft 4</td> </tr> <tr> <td style="text-align: center;">Freefly Alta 6</td> <td style="text-align: center;">Freefly Alta 8</td> </tr> </table>	Aircraft 1	Aircraft 2	DJI Inspire 2	DJI Inspire 2	Aircraft 3	Aircraft 4	Freefly Alta 6	Freefly Alta 8										
Aircraft 1	Aircraft 2																		
DJI Inspire 2	DJI Inspire 2																		
Aircraft 3	Aircraft 4																		
Freefly Alta 6	Freefly Alta 8																		
3.2. Model	<table border="1"> <tr> <td style="text-align: center;">Aircraft 1</td> <td style="text-align: center;">Aircraft 2</td> </tr> <tr> <td style="text-align: center;">Classification: Multirotor</td> <td style="text-align: center;">Classification: Multirotor</td> </tr> <tr> <td style="text-align: center;">Engine: 4 x Brushless</td> <td style="text-align: center;">Engine: 4 x Brushless</td> </tr> <tr> <td style="text-align: center;">Engine Type: Electric</td> <td style="text-align: center;">Engine Type: Electric</td> </tr> <tr> <td style="text-align: center;">Modification: Ballistic Recovery Systems</td> <td></td> </tr> <tr> <td style="text-align: center;">Aircraft 3</td> <td style="text-align: center;">Aircraft 4</td> </tr> <tr> <td style="text-align: center;">Classification: Multirotor</td> <td style="text-align: center;">Classification: Multirotor</td> </tr> <tr> <td style="text-align: center;">Engine: 6 x Brushless</td> <td style="text-align: center;">Engine: 8 x Brushless</td> </tr> <tr> <td style="text-align: center;">Engine Type: Electric</td> <td style="text-align: center;">Engine Type: Electric</td> </tr> </table>	Aircraft 1	Aircraft 2	Classification: Multirotor	Classification: Multirotor	Engine: 4 x Brushless	Engine: 4 x Brushless	Engine Type: Electric	Engine Type: Electric	Modification: Ballistic Recovery Systems		Aircraft 3	Aircraft 4	Classification: Multirotor	Classification: Multirotor	Engine: 6 x Brushless	Engine: 8 x Brushless	Engine Type: Electric	Engine Type: Electric
Aircraft 1	Aircraft 2																		
Classification: Multirotor	Classification: Multirotor																		
Engine: 4 x Brushless	Engine: 4 x Brushless																		
Engine Type: Electric	Engine Type: Electric																		
Modification: Ballistic Recovery Systems																			
Aircraft 3	Aircraft 4																		
Classification: Multirotor	Classification: Multirotor																		
Engine: 6 x Brushless	Engine: 8 x Brushless																		
Engine Type: Electric	Engine Type: Electric																		
3.3. Serial Number or UAS Registration Mark (If Applicable)	EA-OSC-i2-001, EA-OSC-i2-002, EA-OSC-A8, EA-OSC-A6																		
3.4. C2 Link Operating Frequency	<table border="1"> <tr> <td style="text-align: center;">Aircraft 1</td> <td style="text-align: center;">Aircraft 2</td> </tr> <tr> <td style="text-align: center;">2.4 Ghz</td> <td style="text-align: center;">2.4 Ghz</td> </tr> <tr> <td style="text-align: center;">Aircraft 3</td> <td style="text-align: center;">Aircraft 4</td> </tr> <tr> <td style="text-align: center;">2.4 Ghz</td> <td style="text-align: center;">2.4 Ghz</td> </tr> </table>	Aircraft 1	Aircraft 2	2.4 Ghz	2.4 Ghz	Aircraft 3	Aircraft 4	2.4 Ghz	2.4 Ghz										
Aircraft 1	Aircraft 2																		
2.4 Ghz	2.4 Ghz																		
Aircraft 3	Aircraft 4																		
2.4 Ghz	2.4 Ghz																		
3.5 Maximum Take-off Mass	<table border="1"> <tr> <td style="text-align: center;">Aircraft 1</td> <td style="text-align: center;">Aircraft 2</td> </tr> <tr> <td style="text-align: center;">4.42 Kg</td> <td style="text-align: center;">4.25 Kg</td> </tr> <tr> <td style="text-align: center;">Aircraft 3</td> <td style="text-align: center;">Aircraft 4</td> </tr> <tr> <td style="text-align: center;">13.6 Kg</td> <td style="text-align: center;">18.1 Kg</td> </tr> </table>	Aircraft 1	Aircraft 2	4.42 Kg	4.25 Kg	Aircraft 3	Aircraft 4	13.6 Kg	18.1 Kg										
Aircraft 1	Aircraft 2																		
4.42 Kg	4.25 Kg																		
Aircraft 3	Aircraft 4																		
13.6 Kg	18.1 Kg																		
3.6. Relevant/Other Comments	<ol style="list-style-type: none"> a. The Unmanned Aircraft must be equipped with a mechanism that will cause it to land in the event of a disruption to, or a failure of, any of its control systems, including the C2 Link. b. The Remote Pilot must ensure that this mechanism is in working order before any flight is commenced. c. The UAS Operator must ensure that the radio spectrum used for the C2 Link and for any payload communications complies with the relevant Ofcom requirements and that any licences required for its operation have been obtained. d. The UAS Operator must ensure high energy devices are appropriately stored and transported. 																		
4.	LIMITATIONS AND CONDITIONS FOR THE UAS OPERATION																		

4.1. Type of Operation	Operation within 150 metres of an organised open-air assembly of more than 1,000 persons, operation within 50 metres of any person, vessel, vehicle or structure that is not under the control of the SUA operator or remote pilot, and operation at a height of more than 400 feet above the surface
4.2. Operating Times/Periods	Day and Night Operation
4.3. Location(s) of Operation	<i>UK</i>
4.4. Airspace	Flights within a flight restriction zone (“FRZ”) of a protected aerodrome must be conducted with an appropriate permission from the responsible ATC unit as required in article 94 A (3) of the Order .
4.5. Operating Heights/Altitudes/Levels	Flights must not exceed 600 feet above the surface. When operating at a height exceeding 400 feet , the conditions below must be met: <ul style="list-style-type: none"> a) The horizontal distance between the remote pilot and the small unmanned aircraft must not exceed 250 metres. b) All flights above 400 feet must be NOTAMed. c) The minimum crew shall be the pilot and payload operator/observer. d) Flights above 400 feet must not be conducted in conjunction with section 4.7 of this operational authorisation.
4.6. Maximum Operating Range	Within Visual Line of Sight of the Remote Pilot, up to a maximum of 500 metres from the Remote pilot.

<p>4.7. Separation from Uninvolved Persons</p>	<p><i>Within a distance of 20 metres or during take-off and landing within a distance of 10 metres, of any person, vessel, vehicle or structure that is not under the control of the SUA operator or the remote pilot, provided that the conditions below are met:</i></p> <ul style="list-style-type: none"> <i>a) The operation may only be carried out with the aircraft 2 and 3 as listed in section 3.1 of this operational authorisation.</i> <i>b) The horizontal distance between the remote pilot and the small unmanned aircraft must not exceed 200 metres.</i> <i>c) The speed of the small unmanned aircraft must not exceed a slow walking pace when operating within 50 metres.</i> <p><i>Within a distance of 15 metres or during take-off and landing within a distance of 10 metres, of any person, vessel, vehicle or structure that is not under the control of the SUA operator or the remote pilot, provided that the conditions below are met:</i></p> <ul style="list-style-type: none"> <i>a) The operation may only be carried out with the aircraft 1 and 4 as listed in section 3.1 of this operational authorisation.</i> <i>b) The horizontal distance between the remote pilot and the small unmanned aircraft must not exceed 100 metres.</i> <i>c) The speed of the small unmanned aircraft must not exceed a slow walking pace when operating within 30 metres.</i> <p><i>Over or within a horizontal distance of 75 metres of an organised open-air assembly of more than 1,000 persons, provide that the conditions below are met:</i></p> <ul style="list-style-type: none"> <i>a) The operation may only be carried out with the aircraft 2, 3 and 4 as listed in section 3.1 of this operational authorisation.</i> <i>b) The horizontal distance between the remote pilot and the SUA must not exceed 100 metres.</i> <i>c) The speed of the small unmanned aircraft must not exceed a slow walking pace when operating within 150 metres of the crowd. In addition, all turns must be made away from the crowd and aggressive manoeuvres must not be made.</i> <p><i>Over or within a horizontal distance of 50 metres of an organised open-air assembly of more than 1,000 persons, provide that the conditions below are met:</i></p> <ul style="list-style-type: none"> <i>a) The operation may only be carried out with the aircraft 1 as listed in section 3.1 of this operational authorisation.</i> <i>b) The horizontal distance between the remote pilot and the SUA must not exceed 100 metres.</i> <i>c) The speed of the small unmanned aircraft must not exceed a slow walking pace when operating within 75 metres of the crowd. In addition, all turns must be made away from the crowd and aggressive manoeuvres must not be made.</i>
<p>4.8. Security of Loads/Equipment</p>	<p>Flight shall not be conducted unless the remote pilot is satisfied that any load carried by the small unmanned aircraft is properly secured, and the aircraft is in a safe condition for the specific flight.</p>
<p>4.9. Remote Pilot Requirements</p>	<p><i>The requirements for remote pilots operating under this operational authorisation are as per section B3.2 of CAP722. Only remote pilots employed or contracted to the UAS operator may operate under this authorisation.</i></p>
<p>4.10. UAS Operator Responsibilities</p>	<p><i>The UAS operator must follow the requirements in CAP722 section B3.1.</i></p>

4.11. Occurrence Reporting Requirements - (Regulation (EU) 376/2014)	Any occurrences that take place while operating under this authorisation must be reported in accordance with the requirements set out in CAP 722 section 2.9.
4.12. Insurance	Insurance cover meeting the requirements of regulation (EC) 785/2004 must be held.
4.13. Requirements relating to personnel essential to the UAS operation	All support personnel (payload operators and observers) must comply with their individual responsibility as detailed in section 3.4.2 and section 3.4.3 of the operations manual volume 1 as listed in section 2.5 of this authorisation.
4.14. Relevant/Other Comments	
5.	VALIDITY
5.1 Duration of the Authorisation	This operational authorisation is valid: From: 11/01/2021 To: 11/01/2022 Unless otherwise suspended or revoked.
5.2 Regulation References	This operational authorisation is: Authorised under: Article 5 of Regulation (EU) 2019/947 as retained in UK law from the 31 st December 2020.
6.	AUTHORISATION SIGNATURE
6.1. Signature / Stamp	
	The UAS operator detailed in section 2 is authorised to conduct UAS Operations with the UAS defined in Section 3, and according to the conditions and limitations in Section 4, provided that they comply with this authorisation, Annex IX to Regulation (EU) 2018/1139 and its implementing rules. Any changes to the technical or operational characteristics detailed herein will invalidate this authorisation. Any proposed changes must be submitted to the CAA for approval before implementation. <u>This operational authorisation must be carried by the remote pilot during the operation.</u>
Date	11/01/2021

The platforms included within this approval must only be operated under the conditions stated and as approved by the UK Civil Aviation Authority. Any changes to the technical or operational characteristics detailed herein will invalidate this approval. Any proposed changes must be submitted for approval before implementation.

Note 1: UAS operators and remote pilots should be aware that the collection of images of identifiable individuals, even inadvertently, when using surveillance cameras mounted on an unmanned aircraft may be subject to the General Data Protection Regulation and Data Protection Act 2018. Further information about these regulations and the circumstances in which they apply can be obtained from the Information Commissioner's Office and website:

<https://ico.org.uk/for-the-public/drones/>

Note 2: UAS operators and remote pilots must be aware of their responsibilities regarding operations from private land and any requirements to obtain the appropriate permission before operating from a particular site. They must ensure that they observe the relevant trespass laws and do not unwittingly commit a trespass whilst conducting a flight.

Note 3: UAS operators must ensure that the appropriate aircraft radio licence has been obtained for any transmitting radio equipment that is installed or carried on the aircraft, or that is used in connection with the conduct of the flight and that operates in an aeronautical band.

Note 4: 'Night' means the time from half an hour after sunset until half an hour before sunrise (both times inclusive), sunset and sunrise being determined at surface level.

Note 5: The following editorial practices are used throughout the authorisation above:

- **MUST** or **SHALL** denotes a mandatory requirement.
- **SHOULD** implies a strong obligation. If the Operator does not follow such an obligation, the Authority would expect a clear justification.
- **MAY** indicates a discretionary practice.