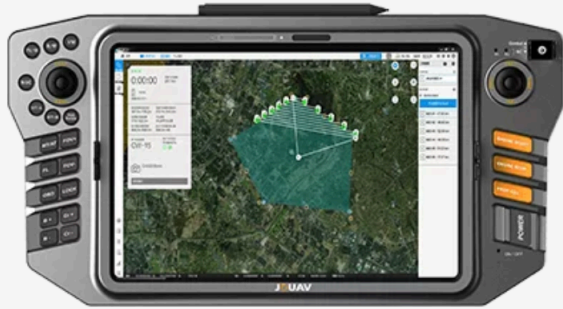


GUIA DE OPERACIONES- FLUJO DE OPERACIÓN ESTÁNDAR





Estación de control de tierra portátil TC-200

Una estación de control terrestre UAV portátil todo en uno para controlar vehículos no tripulados y cargas útiles



Estación de control terrestre GCS-303

Una estación de control terrestre portátil de doble pantalla para controlar el vuelo, la recuperación y las cargas útiles de los drones.



CAPITULO 6- INTERFAZ PRINCIPAL DE CW COMMANDER

General Status

Gyroscope	OK	OK	OK	OK
Accelerometer	OK	OK	OK	OK
Magnetometer	OK	OK	OK	OK
Air Pressure	OK	OK	OK	OK

Selected: [None]

Flight

Shot	OK	OK	OK	OK
GPS	OK	OK	OK	OK
IMU	OK	OK	OK	OK
RC	OK	OK	OK	OK

Tracking Antenna

Base Station Info: Lat: 0.000000, Lon: 0.000000, Alt: 0.000000, Az: 0.000000, Yaw: 0.000000, Roll: 0.000000, Pitch: 0.000000

Base Data: Az: 0.000000, Yaw: 0.000000, Turret State: 0.000000, Course: 0.000000, Dir: 0.000000, Alt: 0.000000, Slant Dist: 0.000000

Work Mode: Base Station Angle: [0.00] [Set]

Main Power: 0.0V, Motors Power: 0.0V, GCS Power: 0.0V

Engine

Oil: 0.0, RPM: 0, Heating: 0.0

Control Status

ATT: OK, ATT: OK, ATT: OK, ATT: OK

Play/Load: 0.0, Power: 0.0, RPM: 0.0, Photo: 0.0

Emergency Panel: To 0 point 0 km | Pan Off/On(0/0) | Telemetry Target: Height Error(0/0) | Board Temperature(50°C) | Flight Time(0:00:00) | Normal elevation(20m) True altitude(0m) | TX: 0:0:0-0-0



CAPITULO 6-

BARRA DE MENÚ

File Map Option View Equipment Task Preflight Check Layout Help Language(语言)

GCS Display Settings

Unit

Speed

Altitude

Distance

Position

Height

MSL

AGL[m]

Other

Self Check

NoFly Zone

Fuel Display Settings

Current voltage 0.0000 V

Ful

Empty

Alarm Scale

Power

Main Power Voltage[V]

High Voltage Alarm

Full

Warning

Empty

Actuator Power Voltage [V]

High Voltage Alarm

Full

Warning

Empty

Engine Power Voltage[V]

High Voltage Alarm

Full

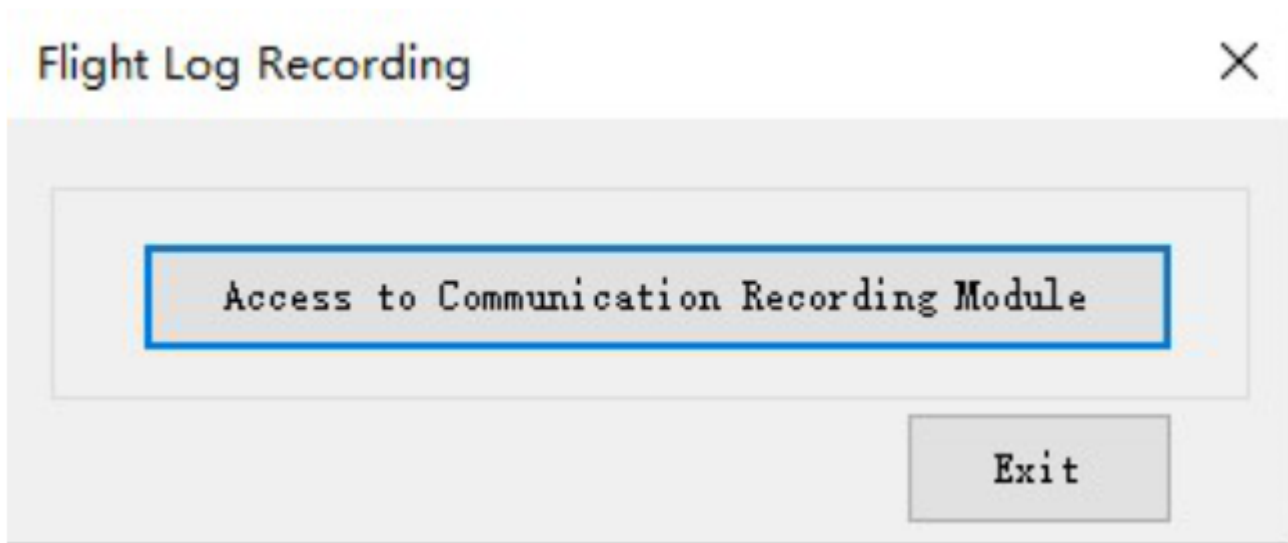
Warning

Empty



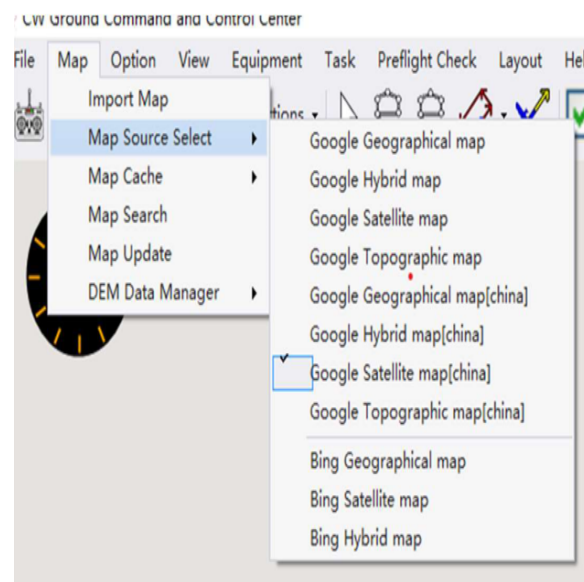
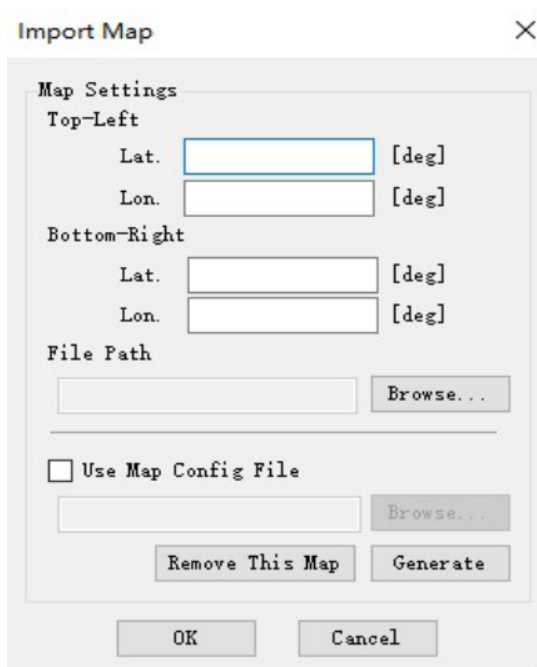
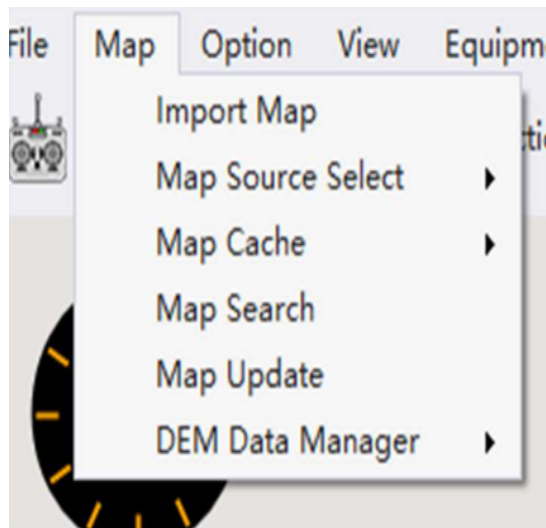
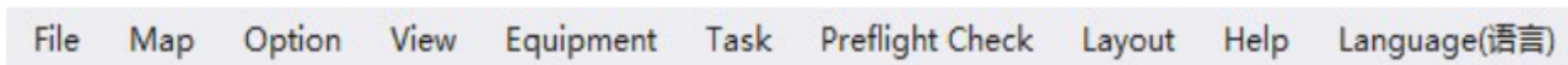
CAPITULO 6- BARRA DE MENÚ

File Map Option View Equipment Task Preflight Check Layout Help Language(语言)





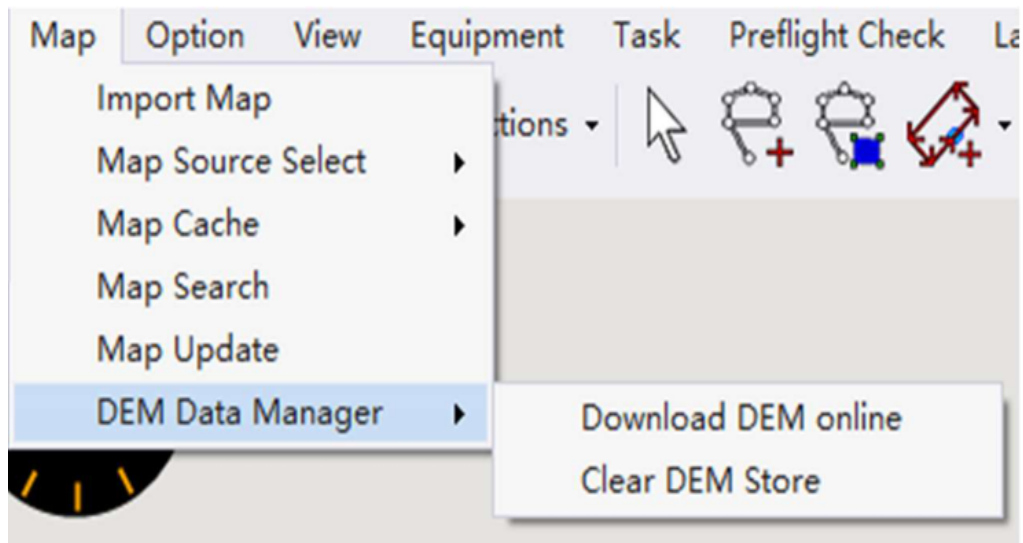
CAPITULO 6- BARRA DE MENÚ





CAPITULO 6- BARRA DE MENÚ

File Map Option View Equipment Task Preflight Check Layout Help Language(语言)





CAPITULO 6- BARRA DE MENÚ

File Map Option View Equipment Task Preflight Check Layout Help Language(语言)

Basic Command IAS

Request Send Default

Take off

Minimum AGL	<input type="text" value="20.0000"/>	m
Climb Coe.	<input type="text" value="1.2000"/>	

Speed

Cruise	<input type="text" value="24.0000"/>	m/s
Climb	<input type="text" value="22.0000"/>	m/s

Landing

Lateral Deviation	<input type="text" value="20.0000"/>	m
Height Deviation	<input type="text" value="15.0000"/>	m
Clarify Acc.	<input type="text" value="1.4000"/>	
Deceleration Length	<input type="text" value="300.0000"/>	m
Landing Height	<input type="text" value="20.0000"/>	m

Throttle

<input type="text" value="0.0000"/>	Capture Value
-------------------------------------	---------------

Auto Start



CAPITULO 6- BARRA DE MENÚ

File Map Option View Equipment Task Preflight Check Layout Help Language(语言)

Basic Command IAS

Request Send Default

Take off

Minimum AGL	<input type="text" value="20.0000"/>	m
Climb Coe.	<input type="text" value="1.2000"/>	

Speed

Cruise	<input type="text" value="24.0000"/>	m/s
Climb	<input type="text" value="22.0000"/>	m/s

Landing

Lateral Deviation	<input type="text" value="20.0000"/>	m
Height Deviation	<input type="text" value="15.0000"/>	m
Clarify Acc.	<input type="text" value="1.4000"/>	
Deceleration Length	<input type="text" value="300.0000"/>	m
Landing Height	<input type="text" value="20.0000"/>	m

Throttle

<input type="text" value="0.0000"/>	Capture Value
-------------------------------------	---------------

Auto Start



CAPITULO 6- BARRA DE MENÚ

Emergency Parameter ×

Altitude Limit

Min. Altitude	<input type="text" value="800"/> [m]	<input checked="" type="checkbox"/> Return if Descending
Max. Altitude	<input type="text" value="6000"/> [m]	<input checked="" type="checkbox"/> Height Exceeds Limit, Flight Termination

Route Protection:
Altitude [m] Protection Height over Limit, Flight Termination

Min. Terrain Alt [m] Terrain Alt Dodge

Data Link Radio Timeout Limit

Radio Timeout H M S

Total Flight Time Limit, Flight Return

Timeout Return

Flight Timeout H M S

2km from Landing Point, radio timeout landing

Timeout Landing

Radio Timeout H M S

If the engine stalling, then:

Restart In The Air

Flight voltage limit, then:

Lower Voltage Return

Voltage Limit [v]

Voltage is too high return

Overvoltage Voltage [v]



CAPITULO 6- BARRA DE MENÚ

Data Management ×

Configuration Management

Altitude Control RTK Mode

GPS

Advanced Settings

Online Sim

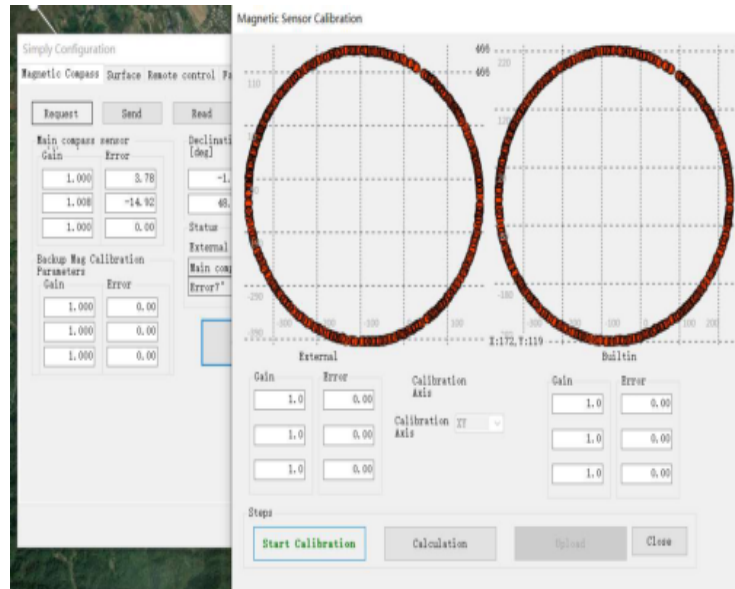
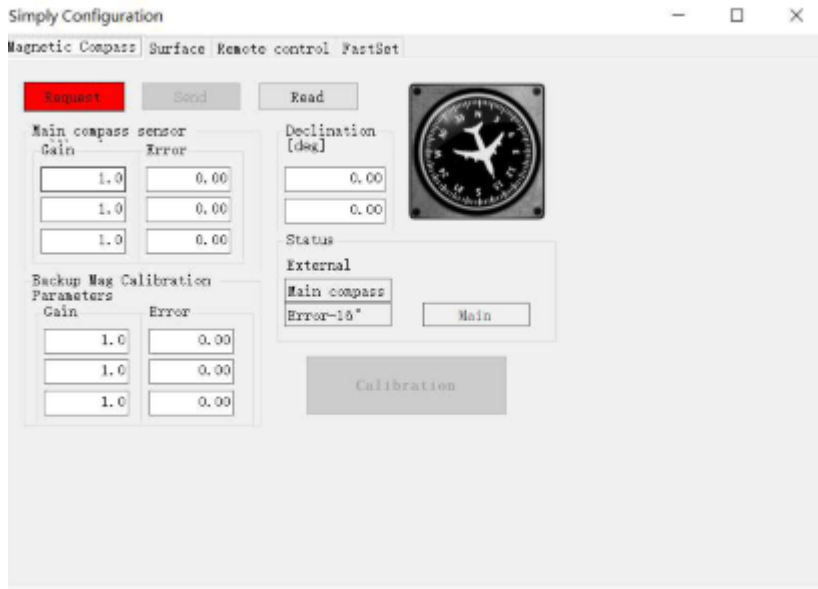
Advanced configuration of remote control

Task Device Type Setting

Device Type

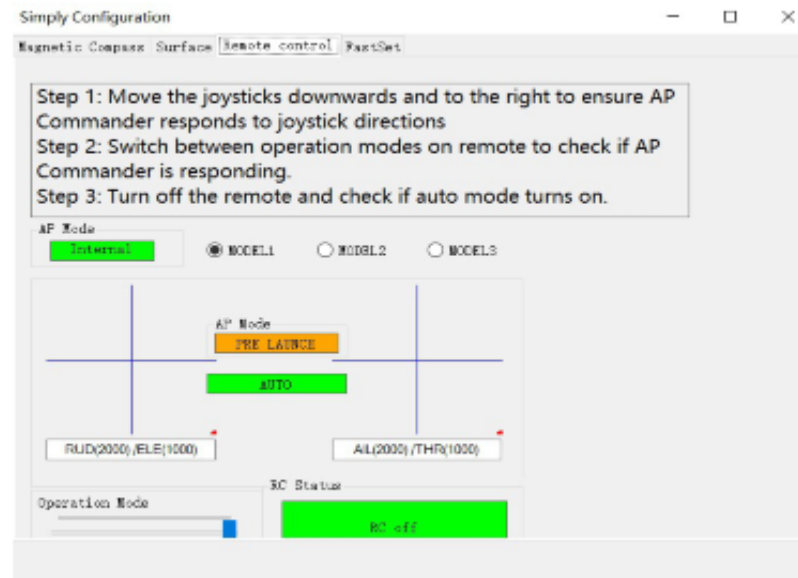


CAPITULO 6- BARRA DE MENÚ



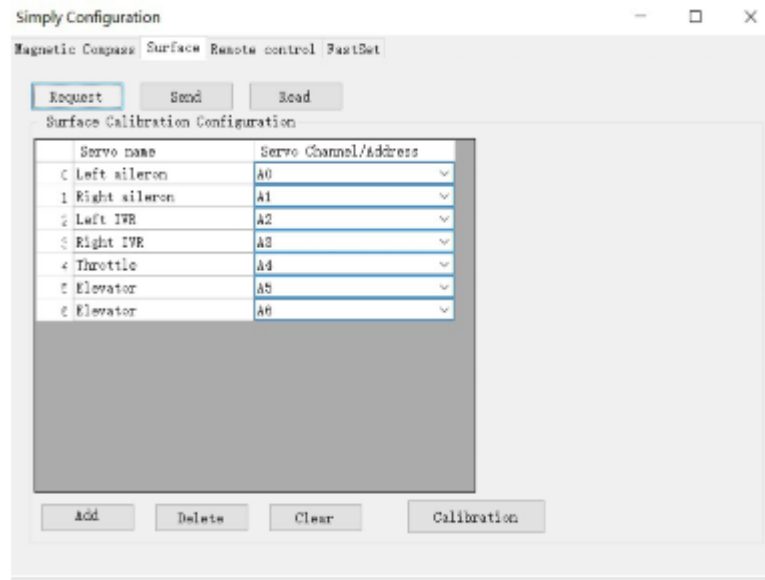


CAPITULO 6- BARRA DE MENÚ



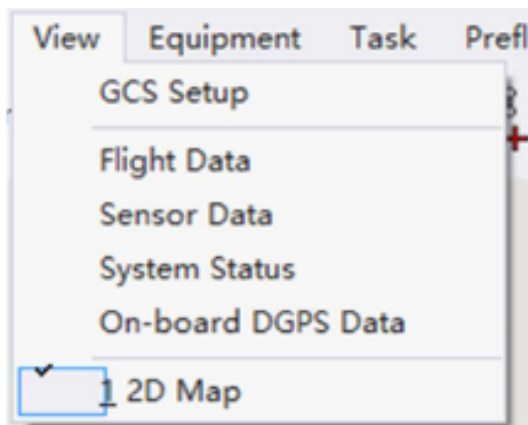


CAPITULO 6- BARRA DE MENÚ





CAPITULO 6- BARRA DE MENÚ



GCS Telemetry

GPS Info

Time	1900/01/06 08:00:00	No Fix
Latitude	0.00000000	pDep 0.0
Longitude	0.00000000	Satellites 0
HMSEL[m]	0.000	

GPS glonass BEIDOU

Direction DGPS

north[m]	0.00	direction[deg]	0.00
east[m]	0.00	distance[m]	0.00
high[m]	0.00	DGPS Status	0

RTK No solution

GCS System Status

Voltage [V]	0.0	Current [A]	N/A
-------------	-----	-------------	-----

Hardware Unknown typeStandardD [Advanced](#)

Software Version 0.0

UHF link status

ConnStatus	LostLink
Conn RX	0
Conn TX	0

L-band link chain status

Conn status	LostLink
Conn RX	0
Conn TX	0

Data link switching

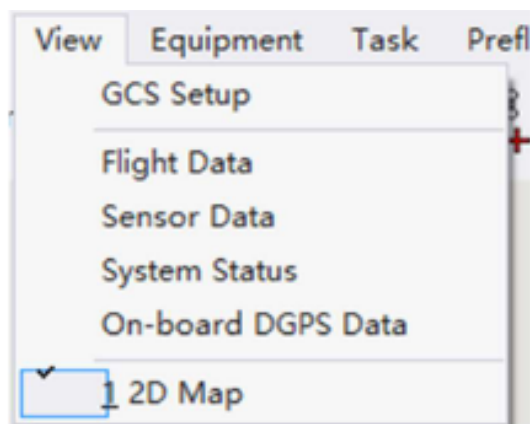
Conn status **L-band link** **UHF link**

Automatic timeout 10 [s]

[Auto](#) [Master Link Effective](#) [Backup Radio Link Effective](#)



CAPITULO 6- BARRA DE MENÚ

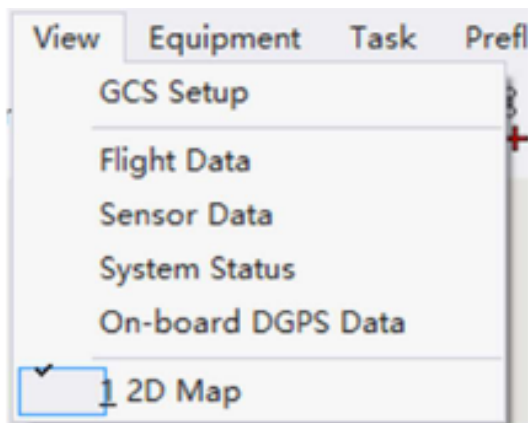


Flight Data

GPS Information			DGPS Packet		
Time	2022/08/05 10:44:54	3D Fix	DGPS Count	40.00	
Latitude	31.10461991 N	Ground North[m/s]	Engine[RPM]		
Longitude	103.75455565 E	Ground East[m/s]	L Engine	6120.00	
MMSL[m]	966.35	Ground Down[m/s]	R Engine	0.00	
pDop	1.0	Ground speed[m/s]	Wind Speed[m/s]		
Satellites	25	Heading [degrees]	South	0.12	
			West	-2.84	
Attitude[degree]		Air Data		Radar / Ultrasonic	
Roll	1.19	Altitude[m]	962.25	Altitude[m]	0.00
Pitch	14.24	Airspeed[m/s]	23.12	Navigation	
Yaw	190.95	GPS Heading		Enroute[m]	1872.83
Master MAG.	190.00	GPS Heading	192.00	Side Reach[m]	-2.44
Slave Mag.	349.00	Master MAG.		Vibration Coefficient	
		Master MAG.	-157.00	Angular Rate	0.40
		Slave Mag.		Acceleration	3.00
		Slave Mag.	2.00		



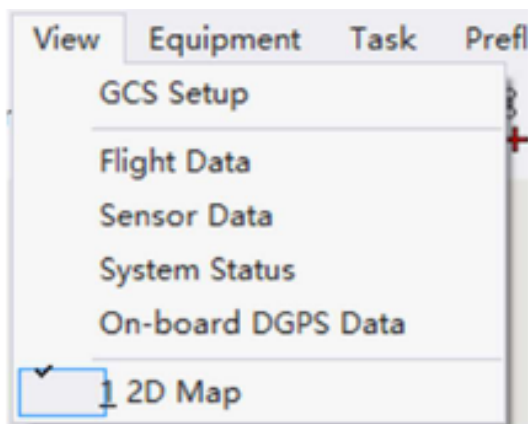
CAPITULO 6- BARRA DE MENÚ



Sensor Data			
System		Magnetometer [nG]	
Board Temp [°C]	0.00	X-Axis	-300/244
Static Press. [Pa]	90166.0	Y-Axis	60/38
Dyn. Press. [Pa]	290.30	Z-Axis	227/267
Gyros [deg/s]		Gyro Bias Estimate [deg/s]	
Roll Rate	-2.0397	Roll Rate	0.0573
Pitch Rate	-1.9767	Pitch Rate	-0.1719
Yaw Rate	-2.0225	Yaw Rate	-0.1146
Accelerometer [m/s/s]		Accel Bias Estimate [m/s/s]	
X-Axis	2.2500	X-Axis	0.0000
Y-Axis	0.1450	Y-Axis	-0.0100
Z-Axis	-9.6700	Z-Axis	0.0000
Airspeed Tube			
Head[°C]	24	Body[°C]	0
HeatingPower	0 %	Status	0



CAPITULO 6- BARRA DE MENÚ

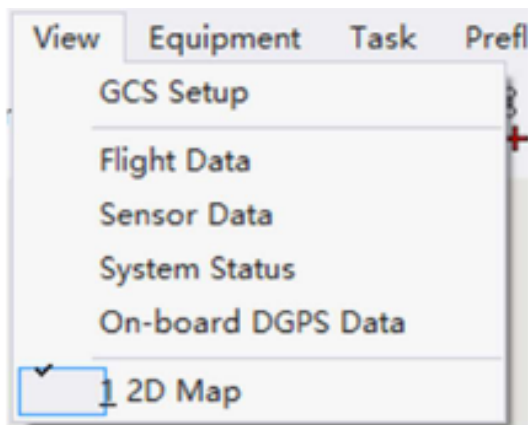


System Status

Time		Recorder
System Running [s]	00:32:01	Recording
Countdown Time [minutes]	0	Param Lock
Current Flight Time	0	Unlock
Power		Temperature
Power Voltage[V]	50.64	Board[°C]
Main Voltage [V]	24.16	41.00
Actuator Voltage[V]	0.00	Battery[°C]
		0.00
System Version		
Hardware	Unnumbered	
Software	Version 0.0.0 Build Time 0000Y00MD0D	
Controller		
Total Time	00:00:00	Flight Sortie No. 0000
Refresh		



CAPITULO 6- BARRA DE MENÚ



On-board DGPS Data

Position difference GPS			
Project status	Solution computed		
Location type	RTK: Integer narrow-lane ambiguity solution		
X-Axis Pos. Std Dev	0.00m	Z-Axis Pos. Std Dev	0.01m
Y-Axis Pos. Std Dev	0.01m	Z-Axis Speed Std Dev	0.03m/s
LI/L2 usage	gps L1 gps L2 Time fine BeiDou B1 BeiDou B2 Using		
Use backup GPS	Main GPS enable		
BeiDou Navigation	MultiPositioning		

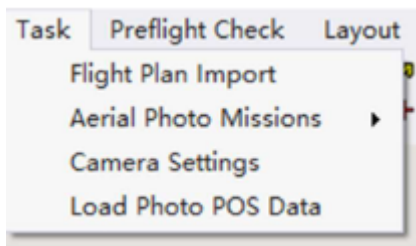
Directional difference GPS			
Project status	Solution computed		
Location type	RTK: Integer narrow-lane ambiguity solution		
X-Axis Pos. Std Dev	0.36m	Z-Axis Pos. Std Dev	1.00m
Y-Axis Pos. Std Dev	0.84m	Z-Axis Speed Std Dev	0.01m/s
LI/L2 usage	gps L1 gps L2 BeiDou B1 Using		

Backup GPS			
Time	2012-04-10 00:00:00		
latitude	0.00	No Fix	
longitude	0.00		
HDEL[m]	0.00	Satellites	0.00
PDop	0.00	Dist to GPS	0.00
<input type="button" value="Refresh"/>			

System status	
hardware ver.	<input type="text"/> <input type="button" value="Request"/>
Hardware status	
Tap. 0	<input type="text"/> Age <input type="text"/>
Tap. 1	<input type="text"/> RTK/ALIGN <input type="text"/>
<input type="button" value="Request"/>	

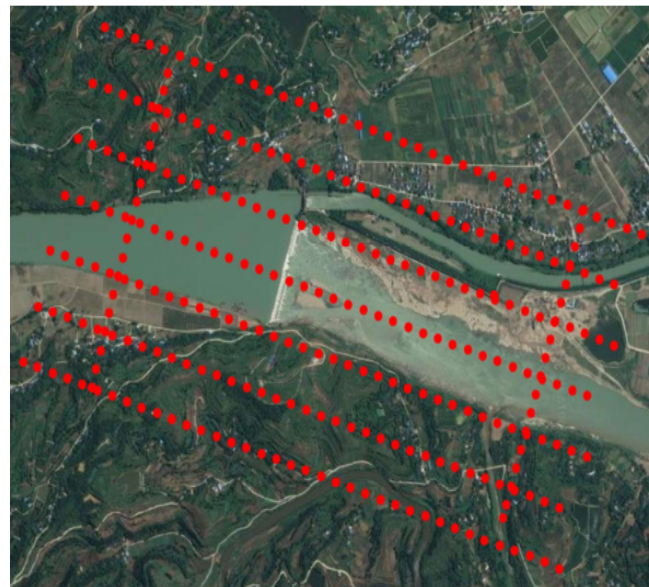
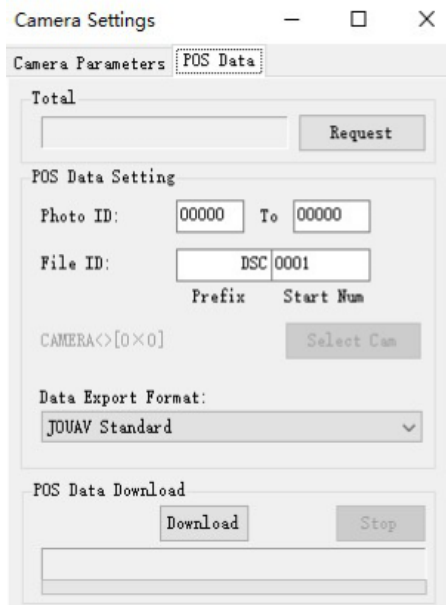
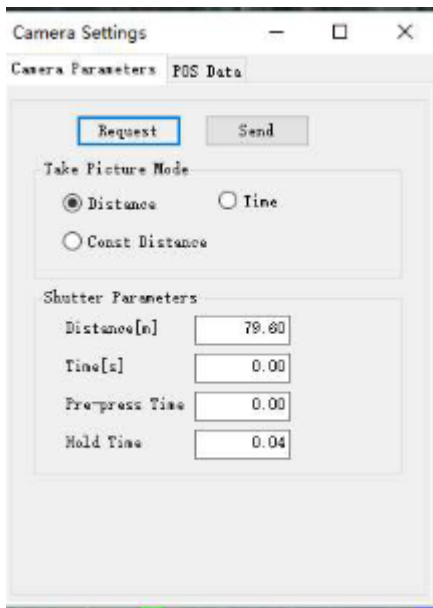


CAPITULO 6- PLAN DE VUELO





CAPITULO 6- CONFIGURACIÓN DE LA CAMARA





CAPITULO 6-

PREFLIGHT CHECK

Preflight Check ×

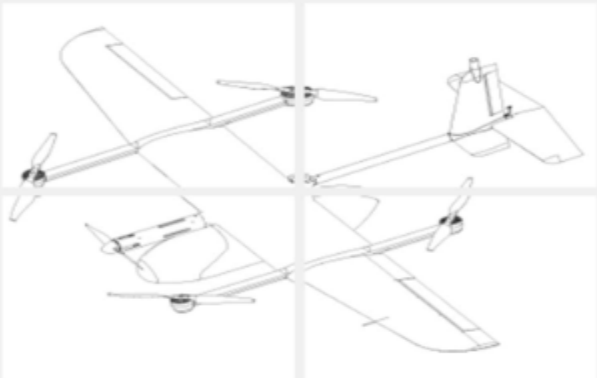
- 1. Maintenance
- General**
 - 2.1 Remote Control
 - 2.2 Attitude
 - 2.3 Magnetic Compass
 - 2.4 Flight Plan
 - 2.5 Camera
- Aviation**
 - 3.1 Emergency
 - 3.2 BackupGPS
 - 3.3 Airspeed
 - 3.3 Surface
- Final**
 - 4. Final

1. The fuselage, mid-wing, arm, and outer wing tail are installed and confirmed to be locked.

2. Check the screws on the rudder surface to confirm that there is no looseness or looseness.

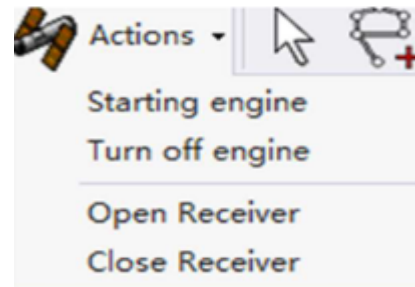
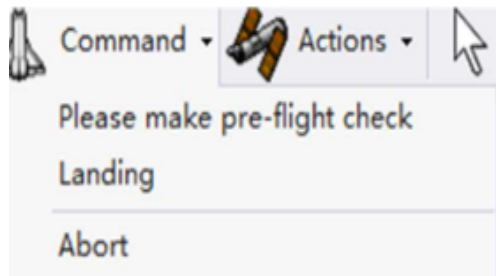
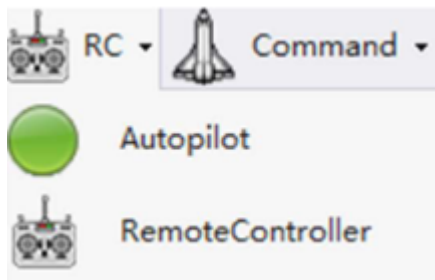
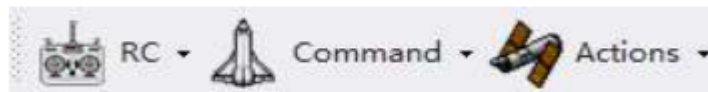
3. There is no cracking on the wing surface, rudder surface, and arm bar of the mold clamping; the airspeed tube is not broken.

4. The rotor blades of the rotor motor are not loose, and the seat of the rotor motor is not loose.





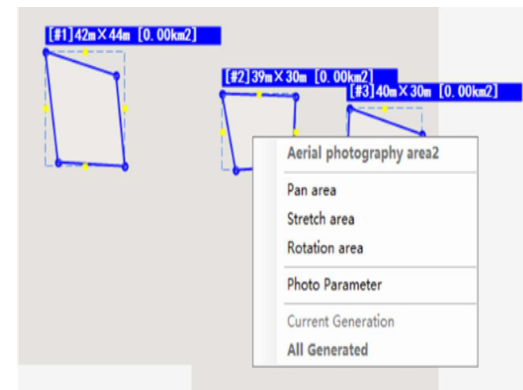
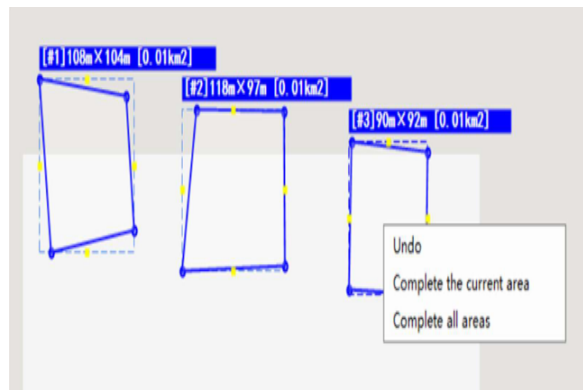
CAPITULO 6- BARRA DE HERRAMIENTAS DE COMANDO





CAPITULO 6-

BARRA DE HERRAMIENTAS DEL PLAN DE VUELO





CAPITULO 6-

BARRA DE HERRAMIENTAS DEL PLAN DE VUELO



Camera Setting

Camera Select
Type: CA-103 [Camera Manager...](#)

Install: Horizontal
Photo Max. Resolution [pix]
Long Side: 9604 x Short Side: 6336
OCD Size[mm]
Long Side: 35.7 x Short Side: 23.8
FocalLength[mm]: 35.0

Overlap Rate
Map Scale: 1:500 GSD: 0.050 [m]
Heading Overlap: 70 [%] Side Overlap: 65 [%]
Photogram Datum: 1041.75 [m] Photo Spacing: 95.0 [m]
Relative Height: 465.88 [m] Route Spacing: 166.3 [m]

Autopilot Camera Parameters
Request: N/A
Send
Calculate
 Adaptive Route
 Adaptive Alt.

Buttons: Previous Set, OK, Cancel, Prev. Gen

S-Shape Farm-Shape RoundTrip

Flight parameters

Cruising Speed: 0.00 [m/s]
Max. Bank Angle: 0.00 [°]
Max. Slope Angle: 0 [°]
Min. Orbit Radius: 150.0 [m]

Route Generator
Direction: L → R Enter Angle: 0
 Framework Enable
Framework
 Antecedent
Start at: 3 times
Pair Count: 2
Height Add: 50 [m]

Route Generator

Direction: L → R Enter Angle: 0



CAPITULO 6- BARRA DE HERRAMIENTAS DEL PLAN DE VUELO

Framework Enable

Framework

Antecedent

Start at times

Pair Count

Height Add [m]





CAPITULO 6-


BARRA DE HERRAMIENTAS DE OPERACIÓN





CAPITULO 6-

BARRA DE HERRAMIENTAS DE ESTADO DE VUELO

Flight status i... 

Status

AS	ALT
LINE	GPS
No	
Normal Flight	
Engine On	

Diff Mode

Fixed platform

DIR GPS Status

RTK-NARROW

GndHeading

RTK

DIR Mode

GPS


Navigation

GPS/INS


APmode


FLYING

Main Power

25.0V 

Rotors Power

50.7V 

50.5V 


Engine

Oil **11.5%**

RPM 4740

Heating Stop

GCS Power

12.4V 

Normal

Control Status

AUTO

Motor lock

RC protection

PayLoad status

Power

normal

Gimbal

Normal

PhotoNum

CMD[0]


Status

AS	ALT
ATT	GPS
Communicatio	
Normal Flight	
Engine Off	


Navigation


GPS/INS

Main Power

25.0V 

Rotors Power

50.7V 

50.5V 

Engine

Oil **11.5%**

RPM 4740

Heating Stop



CAPITULO 6-

BARRA DE HERRAMIENTAS DE ESTADO DE VUELO

Flight status i...

Status
AS ALT
LINE GPS
No
Normal Flight
Engine On
Diff Mode
Fixed platform
DIR GPS Status
RTK-NARROW
GndHeading
RTK
DIR Mode
GPS
Navigation
GPS/INS
APmode
FLYING
Main Power
25.0V
Rotors Power
50.7V
50.5V
Engine
Oil 11.5%
RPM 4740
Heating Stop
GCS Power
12.4V
Normal
Control Status
AUTO
Motor lock
RC protection
PayLoad status
Power
normal
Gimbal
Normal
PhotoNum
CMD[?]

Status

AS	ALT
ATT	GPS
Communicatio	
Normal Flight	
Engine Off	

Navigation

GPS/INS

Main Power

25.0V

Rotors Power

50.7V

50.5V

Engine

Oil 11.5%

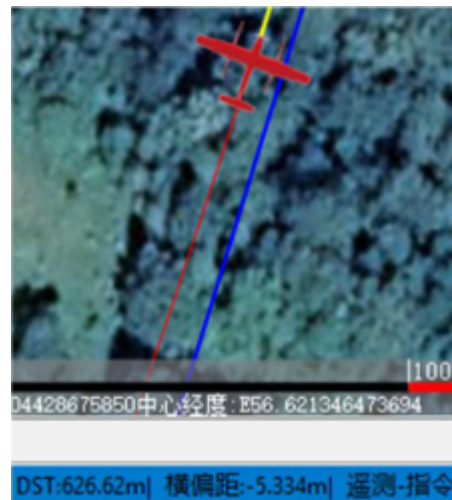
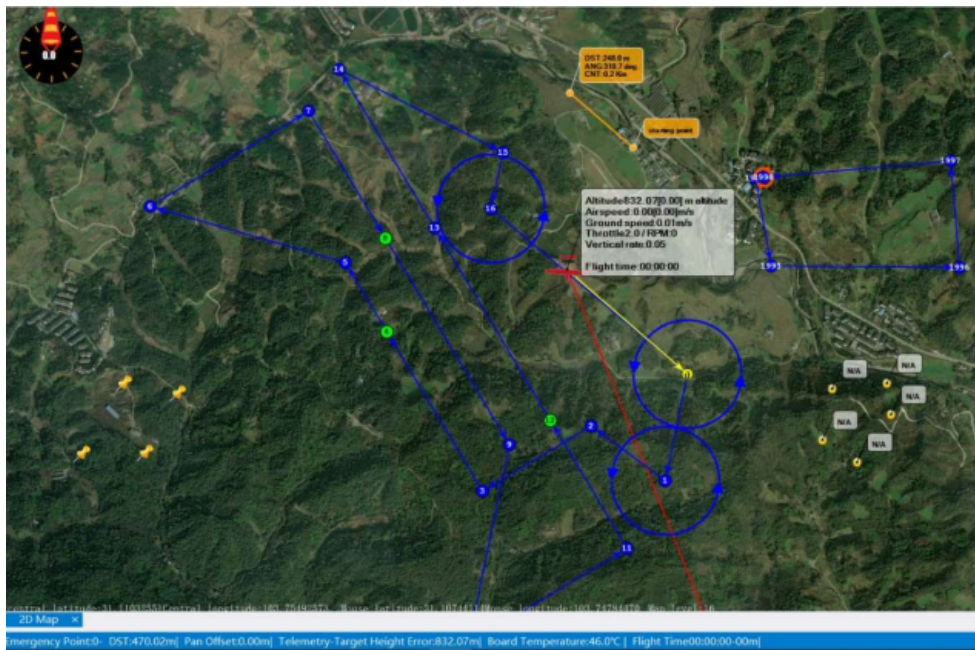
RPM 4740

Heating Stop



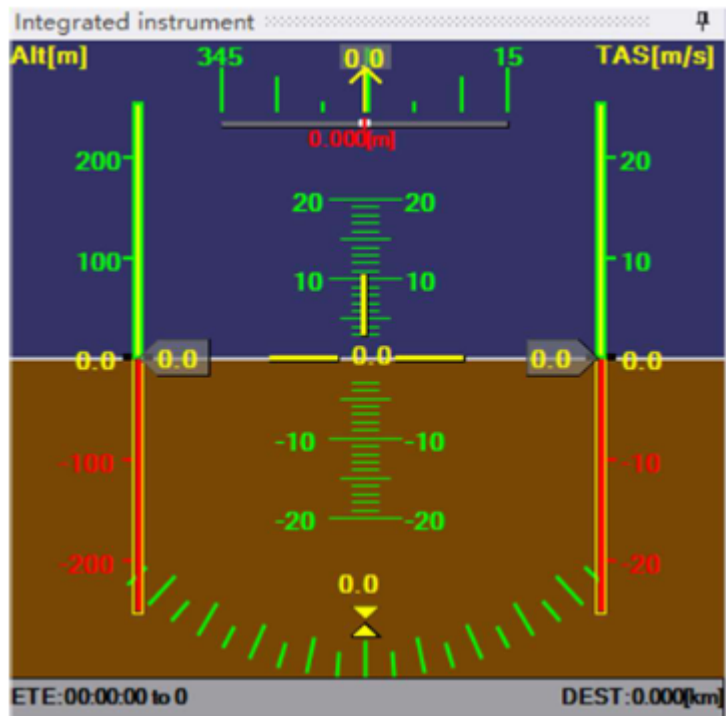
CAPITULO 6-

VENTANA DE VISUALIZACIÓN DEL MAPA





CAPITULO 6- VENTANA INTEGRADA DE INSTRUMENTOS



FIN DEL CAPÍTULO VI
INDUCCIÓN AL MANUAL DE
OPERACIÓN
SERVICIO SOFTWARE