

Rekon3 FPV Racing Drone

Manual





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Package Included

HGI RC Rekon3 EPV Racing Drone*1	Accessory Package*1



1.Product Specifications

Product parameters				
Model	Rekon3 VTX FPV Racing Drone			
Frame Kit	Rekon3 Frame Kit			
Flight Controller	Zeus5 AIO Flight Controller			
VTX	Zeus nano 350mW			
Motor	1202.5 Motor			
WOLOI	1S KV11600			
Support Neceiver	SBUS .DSMX.CRSF			
Input Voltage	1S Lipo			
Weight	62.5g			



2.Interface Description





3.Check the flight control drive

1. Long Press BOOT buttons.connect USB.The system automatically

install the driver



2.Driver cannot be installed, please download ImpulseRC_Driver_Fixer



3.Double-click on the run(Plug in the flight controller to automatically

install the driver)



4.open betaflight configurator

BETAFLIGHT

enter DFU mode

DFU Auto-Connect Connect

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5 Click Firmware Flasher Select fir	mware version
Show unstable releases	Š
HGLRCF411	,) ⁵
4.2.0 - 14-06-2020 14:40	S
No reboot sequence	E
Flash on connect	<u>,</u> A
Full chip erase	
● Manual baud rate 256000 ▼	A P
6.Click Load Firmware [Online] Load firm	ware. Flash Firmware Waiting for
completion Erasing It will	be prompted upon
completion. Programming: SUCCESSFUL	

7. open betaflight configurator Controller plugged into the computer. Betaflight Automatically assigned port, click "Connect" Enter setup interface (Different computer COM)





4. Calibration accelerometer

1. Put the aircraft horizontal and click "Reset Z axis"

etup		1	
Calibrate Acc	elerometer	Place board or frame on leveled surface, proceed	with calibration, ensure platform is not moving during c
Calibrate Ma	gnetometer	Move multirotor at least 360 degrees on all axis of	f rotation, you have 30 seconds to perform this task
Reset S	ettings	Restore settings to default	
Backup	Restore	Backup your configuration in case of an accident,	CLI settings are not included - use the command 'diff al
Heading: 147 de	g		Reset Z axis, offset: -146 deg
Roll: 0.3 de	g		1

5.UART serial port use

1.UART1 uses WIFI

Open WIFI CLI command:

"resource PINIO 1 B10

serial 0 1 115200 57600 0 115200 set pinio_config = 129,1,1,1 set pinio_box = 0,255,255,255

SAVE'

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2. UART2 uses receiver

S5 is a soft serial port, dedicated to video transmission (VTX) FM

CLI command of soft serial port:

```
"resource MOTOR 5 none
resource SERIAL_TX 11 B03
```

SAVE"

6.WIFI function instruciton

Click	Ports Se	lect Por	ts		
Ports					
Note: not all compina Note: Do NOT disable	ions are valid. When the flight controller firm, MSP on the first serial port unless you know v	ware detects this the serial port co what you are doing. You may have	nfiguration will be reset. to reflach and erate your configuration if you do		-
Ivenuner	ContigurationomsP	Senario	reiemery Output	Sensor input	Periprierais
USB VCP	115200 •	CIIII I	Disabled V AD10 V	Disabled • AUTO	Dsabled • AUTO •
UAR71	115200 •		Disabled • AUTO •	Disabled • AUTO •	Disabled • AUTO •
and and	(100 AUE200)	-			

2.Install Speedy Bee on your mobile phone. Connect to WIFI name Started with HermesXXXX.



3. Then click connect to adjust the parameters normally.

4.If the WIFI module light is solid, it means the WIFI is connected to the mobile phone. \circ

5.If the WIFI module light is solid, but conection is abnormal. Please check your wifi / Speedy Bee settings.

Note: Flight Controller must be powered by battery to connect to WIFI



7.Select aircraft model

1.Click Configuration Select model



2.Click Motors Click "I understand the risks" Push Master to check motor

steering "Master" Steering can be changed at BLHeliSuite





8.Choose ESC protocol

ESC/Motor Features						
DSHO	T600	 ESC/Motor protocol 				
0	MOTOR_STOP	Don't spin the motors when armed				
0	ESC_SENSOR	Use KISS/BLHeli_32 ESC telemetry over a separate wire				
0	Bidirectional DShot (requires supported ESC firmware)				
5.5	Motor Idle Throttle \	/alue [percent]				

9.Voltage and current

parameters setting

1.Click Power & Battery Setting parameters

Power & Battery

Batte	ery					
Onb	oard	ADC 🔻	Voltage Meter Source			
Onb	oard	ADC 🔻	Current Meter Source			
3.3	\$	Minimum Cell	Voltage			
4.3	\$	Maximum Cell	Voltage			
3.5 Warning Cell Voltage						
0	\$	Capacity (mAh)			
Volta	ige M	leter				
				110	\$	Scale
Battery 0 V 10 🜩 Divider Value						Divider Value
				1	\$	Multiplier Value



10.Setting up the receiver

1.Receiver connection diagram



2.Click Ports have found "UART2" Open the receiver serial port

ldentifier	Configuration/MSP	Serial Rx	Telemetry Output	Sensor Input	Peripherals
USB VCP	115200 🔻		Disabled AUTO	Disabled AUTO	Disabled • AUTO •
UART1	115200 🔻		Disabled V AUTO V	Disabled AUTO	Disabled • AUTO •
UART2	115200 •	-	Disabled V AUTO V	Disabled AUTO	Disabled • AUTO •
SOFTSERIAL1	115200 •		Disabled V AUTO V	Disabled AUTO	VTX (IRC Tran • AUTO •

3.Set the SBUS receiver

4.Set the CRSF receiver

leceiver	
Serial-based receiver (SPE	EKSAT, 5 v Receiver Mode
Note: Remember to configue Provider when using RX_SEF	ure a Serial Port (via Ports tab) and choose a Serial Receiver RIAL feature.



11.VTX serial port use wiring

1. 5.8G VTX connection



2. 5.8G VTX serial port opens. The protocol is selected according to its

own VTX protocol.

Identifier	Configuration/MSP	Serial Rx	Telemetry Output	Sensor Input	Peripherals
USB VCP	115200 🔻		Disabled • AUTO •	Disabled AUTO	Disabled • AUTO •
UART1	115200 🔻		Disabled	Disabled AUTO	Disabled • AUTO •
UART2	115200 •	-	Disabled • AUTO •	Disabled 🔻 AUTO 🔻	Disabled TAUTO T
SOFTSERIAL1	115200 •		Disabled	Disabled AUTO	VTX (IRC Tran • AUTO •

3.Use OSD to adjust VTX

which displays information like battery voltage and mAh consumed while you fly. In addition, the Betaflight OSD can be used to configure the quadcopter, making in-field adjustments and tuning more convenient.



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The graphics above show the stick command to bring up the OSD menu. The stick command is: throttle centered, yaw left, pitch forward. The exact stick command therefore depends on which mode your transmitter sticks are in.

In the OSD menu, use pitch up/down to move the cursor between menu items. When a menu option has a > symbol to the right of it, this indicates that it contains a sub-menu. Roll-right will enter the sub-menu. For example, in the screen to the right, moving the cursor to "Features" and then moving the roll stick to the right will enter the "Features" sub-menu.

If you are using a video transmitter that supports remote configuration, enter the "Features" menu to configure the vTX. From there, enter either "VTX SA" if you are using SmartAudio (TBS Unify) or "VTX TR" if you are using IRC Tramp Telemetry.

To adjust PIDs, rates, and other tuning-related parameters, enter the "Profile" sub-menu.

In the "Scr Layout" sub-menu, you can move the OSD elements (like battery voltage, mAh, and so forth) around or the screen.

The "Alarms" sub-menu lets you control when the OSD will try to alert you that battery voltage is too low or mAh consumed is too high.

When a parameter can be modified, the parameter's current value will be shown on the right-hand side of the screen. In this case, roll left/right will adjust the parameter up and down.

The screen to the right shows the current vTX settings. From here, you can change the frequency band, channel, and power level of the video transmitter. After making the changes, move the cursor to "Set" and press roll-right to confirm the settings.



F	EATURES	>>>
BLAC	KBOX	>>
> UT X	SA	>>
LED	TR	>>
BACK	STRIP	>>





12.Check receiver signal

1.Click Receiver Check the remote control output signal

Roll [A]	1500	
Pitch [E]	1503	- 1
Yaw [R]	1502	-
Throttle [T]	998	
AUX 1	15 <mark>05</mark>	
AUX 2	1071	
AUX 3	1071	
AUX 4	1071	
AUX 5	1071	
AUX 6	1765	
AUX 7	1520	
AUX 8	1547	
AUX 9	1520	
AUX 10	1520	
AUX 11	152 0	
AUX 12	1520	
AUX 13	988	
AUX 14	988	

13.Select flight mode startup mode

1.Click ^{Contended} Set up the function of remote control switch across the

channel (below are for reference only)

Modes

Use ranges to defito save your settir	ine the switches ngs using the Sa nused modes	on you ve butto	r trar on.	ismittei	r and	corres	spond	ling mo	ode ass	signn	nents	. A rece	iver (hannel	that	t gives a	a read	ling be	etwee	n a ran	ge mi	n/max	c will	activate	e the	mode. Re	member
ARM	AUX 1 🔻			1		4						1			- 1	4		E	1					1			0
Add Range	Min: 1300 Max: 2100	900		1000				 1200				1400		1500		1600				 1800				1 2000		1 2100	
ANGLE	AUX 1 🔻																										0
Add Range	Min: 1300 Max: 2100	 900	8	 1000	38. 	1	3	 1200	(), () () () ()		Υ.	 1400	3) 1500	18	 1600		5	¥.	 1800	÷.		A.	 2000	3	 2100	

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WIKI



14.0SD settings

1. Click ^{COSD} the OSD Settings, according to the need to choose, drag

the OSD schematic diagram of the parameters can be adjusted.

Elements	Switch all: 💭	Preview (drag to change position)	Logo: 🤍	Video Format
Rssi Value		CARLE STOR		● AUTO ◎ PAL ◎ NTSC
🔍 Main Batt Voltage		Conde Marine		
Crosshairs		BETAFL	IGHT	Units
Artificial Horizon				IMPERIAL IN METRIC
Horizon Sidebars				
Timer 1		10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	a setter	Timers
Timer 2		C	The state of the second	1 Source: ON TIME
Flymode		LOW UOLTAGE	E HERE AND	Precision: SECOND V
💭 Craft Name			Carl Frank	Alarm: 10 \$
Throttle Position			A STATES	
Vtx Channel			all a second	2 Source: TOTAL ARMED TIME ▼
Current Draw		En l'	10000	Precision: SECOND
🗩 Mah Drawn				Aldrin: IU 💌
Gps Speed				

15.LED settings

1.Click Configuration Turn on LED support

LED_STRIP	Multi-color RGB LED strip support	
2.Click The LED Strip Click	Wire Ordering Mode	set according to
need		
	LED Functions	





16.Troubleshooting

Warning:

Please read the cautions as follows, otherwise stability of your flight

controller cannot be ensured, your flight controller will even get damaged.

- Keep focus on the polarity. Check carefully before power supply.
- Cut off the power when you connect, plug and pull anything.
- The refresh rate of PID and Gyroscope is up to 8K/8K.

after sales question:

1. After receiving the goods, it is found that the product can not be used normally. If the return to the factory is a quality problem, the repair service will be provided free of charge.

 If the product is damaged due to improper operation, the repair service may be provided under the condition that the inspection can be repaired.
 For domestic customers, please contact the after-sales service personnel.
 For overseas customers, please contact the official website for after-sales service.



Product daily problems

1.0SD garbled:

If you find garbled characters, please open Betaflight, click "OSD" .and click "Font Manager" clicks on "Upload Font" to update

1. When plugged in the battery, the aircraft does not pass the self-test

without "BBB" sound. There is only one sound.

Please check if the ESC agreement is correct

3. The spin of the aircraft keeps spinning

- 1. Please check if the propeller is correct
- 2. Please check if the motor direction is correct