

Petrel 75Whoop FPV Racing Drone

Manual





Contents

Product Specifications	1
Product Specifications Interface Description	2
Check the flight control drive	3
Calibration accelerometer	4
UART serial port use	5
Select aircraft model	6
Choose ESC protocol	7
Voltage and current parameters setting	8
Setting up the receiver	9
VTX serial port use	10
Check receiver signal	11
Select flight mode startup mode	12
OSD settings	13
LED settings	14
Troubleshooting	15
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Package Included

HGLRC Petrel 75Whoop FPV Racing Drone*1	Accessory Package*1
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1.Product Specifications

Product parameters			
Model	Petrel 75Whoop VTX FPV		
Model	Racing Drone		
Frame Kit	Petrel 75Whoop Frame Kit		
Flight Controller	Zeus5 AIO Flight Controller		
VTX	Zeus nano 350mW		
Motor	0802 Motor		
WOLOF	1S KV22000/2S KV17000		
Support Neceiver	SBUS .DSMX.CRSF		
Input Voltage	1/2S Lipo		
Weight	33.4g		



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



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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	2	(
Calibrate Ac	celerometer	Place board or frame on leveled surface, procee	d with calibration, ensure platform is not moving during o
Calibrate Ma	ignetometer	Move multirotor at least 360 degrees on all axis	of 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 acciden	t, CLI settings are not included - use the command 'diff al
Heading: 147 d Pitch: 0.2 de	~		Reset Z axis, offset: -146 deg
Roll: 0.3 de	Q		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.Select aircraft model

4	Quad X	•
3	1	
Motor direction	i is reversed	

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



7.Choose ESC protocol

1. Choose the right ESC protocol, the optional universal protocol

DSHOT600.

ESC/Motor Features		
DSHOT600 • ESC/N	Notor protocol	0
MOTOR_STOP	Don't spin the motors when armed	
4.5 🗘 Motor Idle Throt	tle Value [percent]	0



8.Voltage and current

parameters setting

1.Click Power & Battery Setting parameters

Power & Battery

Battery				
Onboard ADC	Voltage Meter Source			
Onboard ADC	Current Meter Source			
3.3 🛟 Minimum	Cell Voltage			
4.3 🗘 Maximum	Cell Voltage			
3.5 🗘 Warning C	ell Voltage			
0	mAh)			
Voltage Meter		111	Scale	
Battery	0 V	10	 Divider Value 	
		[1	Multiplier Value	
Amperage Meter				
Battery	0.00 A	179	Scale [1/10th mV/A]	
outery	0.00 A	0	Offset [mA]	

9.Setting up the receiver

1.Receiver connection diagram





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

Identifier	Configuration/MSP	Serial Rx	Telemetry Output	Sensor Input	Peripherals
USB VCP	115200 🔻		Disabled • AUTO •	Disabled AUTO	Disabled
UART1	115200 🔻		Disabled • AUTO •	Disabled AUTO	Disabled • AUTO •
UART2	115200 •	0	Disabled • AUTO •	Disabled AUTO	Disabled • AUTO •
SOFTSERIAL1	115200 •	0	Disabled V AUTO V	Disabled V AUTO V	VTX (IRC Tran ▼ AUTO ▼

3.Set the SBUS receiver

Serial-based receiver	(SPEKSAT, S Receiver Mode
Note: Remember to co	onfigure a Serial Port (via Ports tab) and choose a Serial Receive
Note: Remember to co Provider when using R	onfigure a Serial Port (via Ports tab) and choose a Serial Receive X_SERIAL feature.

4.Set the DSMX receiver

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

5.Set the CRSF receiver

Receiver	
Serial-based receiver (SPEKSAT, 5 •	Receiver Mode
Note: Remember to configure a Serial Po Provider when using RX_SERIAL feature.	ort (via Ports tab) and choose a Serial Receiver
0005	Serial Receiver Provider



10.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
UART1	115200 🔻		Disabled • AUTO •	Disabled • AUTO •	Disabled • AUTO •
UART2	115200 •		Disabled • AUTO •	Disabled 🔹 🛛 AUTO 🔹 🔪	Disabled T AUTO T
SOFTSERIAL1	115200 •		Disabled • AUTO •	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.

MODE2





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.

PROFILE FEATURES SCR LAYOUT ALARMS FC "FW INFO MISC SAUE "REBOOT EXIT

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.





1.Click 👛 Receiver

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.

P	-				1				0		
					0				_		8
2	F	E	Ĥ	T	U	R	E	S			2
	2	C	R		L	8	Y	0	U	T	8
	a	L	A	R	M	3					>
	F	Œ		F	w		0	N	F	0	>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
	M	1	8	C							>
	8	Ĥ	W	E		R	E		0	0 T	
	E	×	11	U							

11.Check receiver signal

Check the remote control output signal

1500 Roll [A] 1503 Pitch [E] 1502 Yaw [R] hrottle [T] 998 AUX 1 1505 AUX 2 1071 1071 AUX 3 AUX 4 1071 1071 AUX 5 AUX 6 1765 AUX 7 1520 1547 AUX 8 1520 AUX 9 1520 AUX 10 1520 AUX 11 1520 AUX 12 AUX 13 988 AUX 14 988



12.Select flight mode startup mode

1.Click ^{Modes} set up the function of remote control switch across the

channel (below are for reference only)

save your setti Show/hide u	ings using the Sa inused modes	ive butto	on.																	
ARM	AUX 1 🔻						_													
Add Range	Min: 1300 Max: 2100	 900		1000	1	 1200	(8)		1	 1400	1500		 1600			 1800	.1	 2000	1 210	0
ANGLE	AUX 1 🔻	-						-												
Add Range	Min: 1300 Max. 2100	900		1000		1200			×.,	 1400	1509	1	1600	610 - 11 1	А.,	1800		2000	' 210	

13.0SD 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: 刘	Preview (drag to change position)	Logo: 🤍	Video Format
🕽 Rssi Value		HERE		💌 AUTO 🔍 PAL 🔍 NTSC
🔍 Main Batt Voltage		- Contraction	1	
Crosshairs		S BETAFL	GHT	Units
Artificial Horizon				IMPERIAL IN METRIC
Horizon Sidebars			XIII.	
D Timer 1		1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		Timers
D Timer 2		e	Dates Charles	1 Source: ON TIME
Flymode		LEW UNDTARE	Caller Ma	Precision: SECOND V
Craft Name		State State Dial And	A Start Barrier	Alarm: 10 \$
D Throttle Position		1 R . R.		
>>> Vtx Channel				2 Source: TOTAL ARMED TIME V
🐊 Current Draw		The second se	Contract (Contraction)	Precision: SECOND Alarm: 10
🐊 Mah Drawn				Additi. 10 💌
Gps Speed				



14.LED settings

1.Click Configuration Turn on LED support



15.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.

2. If the product is damaged due to improper operation, the repair service may be provided under the condition that the inspection can be repaired.

3. 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