Figuro

Firefly hex nano Manual

Analog BF Version





1/ drone introduction

In an effort to push the boundaries of carry the camera on the smallest platform, Flywoo designed the smallest hexacopter possible in their history.

Firefly Hex nano , a nano- sized fpv drone designed to carry Insta 360go $\,$, SMO 4K camera for some action flying.

Weighing in at just 57.9g, the Firefly hex nano is small, flexible, stable, but is full of power and offers unmatched control. Pilots can quietly enjoy the fun of shooting a video without jelly.

The Hex nao is equipped with GOKU HEX 13A STACK and 6pcs ROBO 1202.5 5500KV motors, to bring the Firefly a quiet, stable, flexible and long flight time characteristics. Perfect for the indoor and outdoor recording every beautiful flying moment!



Battery recommend Flight time: About 6 min flight with Explorer 450mAh 4S battery About 4 min flight with Explorer 300mAh 4S battery



2/ Configuration and wiring diagram description

Specifications

Item: Firefly hex nano hexacopter Weight: 57.9g (without battery) Wheelbase: 90mm FC & ESC : GOKU HEX F4 16*16 STACK - (FC+13A ESC) Frame: Firefly hex nano Frame Motors: Robo 1202.5 5500KV Props: HQ 40mm 4-Blades Props Receiver Option: Frsky XM+ / TBS Crossfire Camera Degree: 15°-90° VTX: Goku VTX625 450mw Antenna: Atomic 5.8GHz Antenna Length 30mm (RHCP) Battery: 4S 450mAh / 4S 300mAh battery (Not including)

GOKU HEX F411 16X16 STACK, support 4s battery. Use powerful STM32F411 chip,5V/2A BEC, black box, WS2812LED,

support 2 complete uarts, 1 soft serial port, 1 I2C port and other functions are all open! Enough to meet all FPV needs.





Target firmware: FLYWOOF411HEX

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

UART1: TBS/R9M/XM+/DSMX/SBUS receiver

UART2: VTX IRC/SA Control





Frequency table:

FR/CH	СН1	CH2	СНЗ	CH4	CH5	CH6	CH7	СН8
A	5865	5845	5825	5805	5785	5765	5745	5725
b	5733	5752	5771	5790	5809	5828	5847	5866
E	5705	5685	5665	5645	5885	5905	5925	5945
F	5740	5760	5780	5800	5820	5840	5860	5880
r	5658	5695	5732	5769	5806	5843	5880	5917

• The selections in xxxx requires HAM license to operate .legally. xxxx Selections are only available on special request.

• Button function

- FR (blue light), short press the button, the blue light flashing times represent CH1-CH8
- CH (yellow light), long press the button 2S until the yellow light flashes,
- and then press the button shortly, the number of flashes of the yellow light represents A-r
 PW (power), long press the button 6S until the red light flashes, and then press the button shortly,
- the number of flashes of the red light represents 5 levels of power • Long press 10S to unlock 40 channels. (three color led flashes)
- Betaflight osd IRC function

FLYWOO_GOKU_VTX625_VTXTABLE.json

https://flywoo.net/pages/manual





3/ Receiver binding

TBS NANO 915:

When the USB is connected, the green light of the receiver flashes, and then bind according to the picture operation.

https://www.youtube.com/watch?v=-iNkVcOLITM&ab_channel=Danimal3D

12015 01 Crossfine config 02 rnSky GaSuite 03 FnSky SkEC 04 FnSky SkR 05 Graupner HoTT 06 Multi chan namer		Set Failsafe Bind General Region Open Max Power 250mW Dyn. Power 0ff Frequency 915 MHz	
------------------------------------------------------------------------------------------------------------------------------	--	----------------------------------------------------------------------------------------------------------	--

R9MM FCC ACCESS OTA:

Make sure your remote control supports ACCESS protocol, then follow the link to register and bind

https://www.youtube.com/watch?v=az5hDdNBcjg&t=9s&ab_channel=FrSkyRC

If the remote control is ACCST protocol, please bind as follows:

1/ Put these two files into the firmware directory of the SD card of the remote control. R9MM firmware: FW-R9MM-ACCST_v20190201

R9M TX module: FW-R9M-ACCST-20190117



2/ Insert the R9M TX module and write the firmware you need



3/ To write the firmware of the R9MM receiver, you need to remove the R9MM receiver, and then write the firmware by connecting to the S.PORT port.



4/ After both R9M TX and R9MM RX are written into the ACCST firmware. Binding method:

1/ Press and hold the button of RX, power on, the red and green lights are always on.

2/ Then after R9MM selects binding, RX red light flashes, and then exit

3/ RX is powered on again, and only a green light is displayed, indicating that the binding is successful.



XM+ receiver:

1/ Press the XM+ receiver button, USB power supply, the red and green lights are always on

2/ The remote control turns on the binding mode, the green light flashes to indicate successful binding, turn off and restart







3-1/ Then set the corresponding serial port and receiver protocol to ensure the normal output of each channel of the receiver.

	Lamera						
 Configuration 	0 5 FPV Camera Angle (d	erreeal	<i>≱ 5</i> ==0	Receiver			
El Power & Battery	· · · · · · · · · · · · · · · · · · ·	Actives					
	Receiver		Configuration Please read receiver chapter of the documentation. Configure series port (if require channels exceptions angle on 15 so that at channels go thirm -1000 to -2				
	The cover		124 Power & Extern	Harlinon when TX is off or out of range. IMPORTANT: Before fiving read failsafe chapter of documentation and configure failsafe			
	Serial-based receiver (SPEKS/	U, S ▼ Receiver Mode	• Fallsale			onnigure ransare.	
	Nata Description in and a second	Senal Port (via Ports tab) and choose a Serial	at 190 Kining	Roll (A) Pitch (E)	10		
	Receiver Provider when using R	Hotever	Yawa (R)	11 40			
			and the second se	Throttle (T)	885		
	CRSF	 Serial Receiver Provider 	2 Mades	AUX 1	00		
	SPEKTRUM1024 SPEKTRUM2048		fif Adjuitments	AUX 2	1350		
	SBUS		4 r Silikii	AUX 3	00		
	SUMD			AUX 4	2000		
	SUMH		-8 0F5	AUX 5	-40		
	XBUS_MODE_B	al flight controllers. If you enable a specific ave and Reboot', it means that this feature	A Materia	AUX 8	00 100		
	XBUS_MODE_B_RJ01 IBUS	and an energy of the and that she reature		AUX 5	1/20		
	JETIEXBUS		🔿 080	AUX 2	1200		
	CROF	In-flight level calibration	es Waten Transmitter	AUX 10	EL 30		
	SPEKTRUM2048/SRXL	Servo gimbal 💿	A LED Step	AUX 11	12:00		
	TARGET_CUSTOM FrSky FPort		CONTRACTOR AND A	AUX 12	00		
	SPEKTRUM SRXL2	Enable CPU based serial ports	Ar Second				
a Tethered Logging	SONAR	Super	and Technonil Logging -	12			

4/ Mode setting:

Set the ARM switch and flight mode switch, AUX* corresponds to the remote control switch, and the yellow area mark is turned on.

⊁ Senip	Remember to save your s	ettings using the Sa	ave button.						
🗯 Ports	Hide unused mo	des							
Configuration	ARM	AUX 2 •							6
🗇 Power & Battery		Min: 1375	1.000 1000 00	0.282 × 0		10 (j) (0 (d)		1 1 1 1	
🗢 Failsate	Add Range	Max: 2100	900 1000	1200	1400 1500	1600	1800	2000 2100	
슈 PID Tuning	ANGLE								
de Paralmar	Add Link								
- Modes	Add Range								
∰ Adjustments	HORIZON	AUX 2 *							6
🖶 Serves	Add Link	Min: 1700 Max: 2100	T a t a c		• • • • •	1	1.1.2	1 T	
📣 GPS	Add Range]	900 1000	1200	1400 1500	1600	1800	2000 2100	
🛦 Matars	HEADFREE								
🗰 05D	Add Link								
90 Video Transmitter	Add Range								
LED Strip	FAILSAFE								
-I- Sensors	Add Link								
Tethered Logging	Add Range								
Blackbox	GPS RESCUE	AUX 4 🔹							0
El GI	Add Link	Min: 1700	1 1 1 1 1 1	A DAY	1 1	a para	1 1 1 1		

5/ Motor test:

Unload the propeller, test the rotation direction of the motor, turn on the safety switch, and test the rotation of the motors one by one.





6/ Flight firmware upgrade and write default CLI

1/ Activate DFU mode



2/ BF Configurator will display to enter DFU mode. If it does not enter DFU mode, it may be that the driver is not installed. The driver can be installed using IMPULSE RC software

	A Present John BLENT With any one of produces with several field and the second several constraints with several several many selections in the second several many selections in the second several many selections in the second several many several several several several many several several several several several several many several several several several several several many several several several several several several several several many several several several several several several several several several many several sev	te	nong	Be ImpulseRC Driver Fixer	× vi
Annan II Annan Ann Annan Anna Annan Annan Annan Annan Annan Annan Annan	AND THE PERSON NUMBER OF THE PERSON OF	A and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory and memory) RC
	Example Constraints and and an example based of Evaluation of the second sec			Installing DFU driv	er

Driver software:

https://impulserc.blob.core.windows.net/utilities/ImpulseRC_Driver_Fixer.exe

3/ Then load the local HEX firmware and wait for the flashing to complete. A green progress bar is displayed to indicate completion, and DFU will become a COM port







4/ After the connection is entered, it is a blank interface, you need to write CLI commands, Factory CLI LINK: https://flywoo.net/pages/manual



5/ If the command is not restarted after writing the command, please write SAVE and press Enter to save, and the FC will restart



6/ Then all functions of FC return to normal.

