FIGLIOO

Firefly hex nano Manual

VISTA HD 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

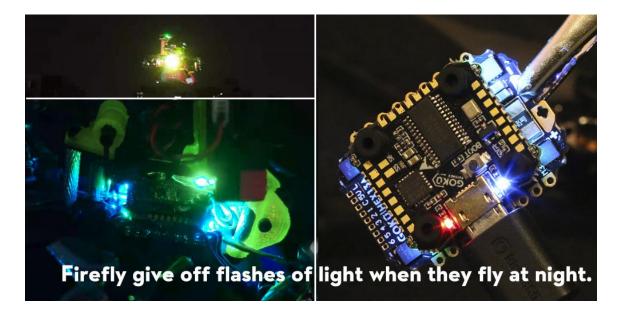


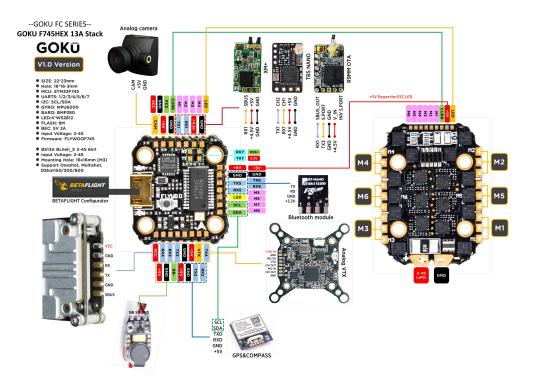
2/ Configuration and wiring diagram description

Specifications

Item: Firefly hex nano hexacopter Weight: 57.9g (without battery) Wheelbase: 90mm FC & ESC : GOKU HEX F745HEX 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 (LHCP) Battery: 4S 450mAh / 4S 300mAh battery (Not including)

Equipped with GOKU HEX F745 16X16 NANO STACK, and NIN 1404 v2-2750kv, support 4s battery. Use powerful F745 BGA chip, barometer, black box, WS2812LED, support 7 complete hardware serial ports, I2C and other functions are all open ! Enough to meet all FPV needs.





Target firmware: FLYWOOF745HEX

Identifier	Configuration/MSP	Serial Rx	Telemetry Output	Sensor Input	Peripherals	1
USB VCP	115200 🔻		Disabled	Disabled AUTO	Disabled	
UART1	115200 •		Disabled	Disabled AUTO	Disabled AUTO	RX IN
UART2	115200 •		Disabled	GPS • 9600 •	Disabled	GPS Serial Port
UART3	115200 🔻		Disabled	Disabled AUTO	Disabled	VISTA OSD UART
UART4	115200 •		Disabled V AUTO V	Disabled AUTO	Disabled	VISTA SBUS IN
UART5	115200 ▼		Disabled	Disabled AUTO	Disabled • AUTO •	Bluetooth Module
UART6	115200 •		Disabled	Disabled AUTO	Disabled • AUTO •	NULL
UART7	115200 •		Disabled	Disabled AUTO	Disabled	NULL

If using DJI remote control, turn on UART4 RX and turn off UART1 RX, Set the receiver protocol to SBUS

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

UART2: NULL

UART3: VISTA OSD TX/RX

UART4: VISTA SBUS RX (Only use DJI remote control to turn on, and turn off RX1)

UART5: NULL

UART6: NULL

UART7: NULL

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



R9MM FCC ACCESS OTA:

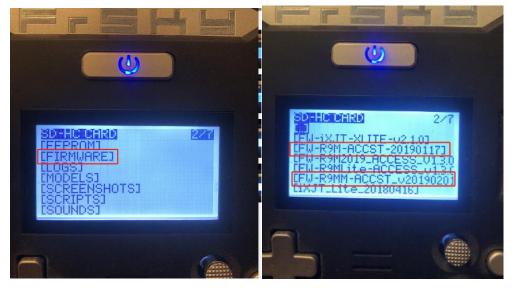
Make sure your remote control supports ACCESS protocol, then follow the link to register and bind

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.



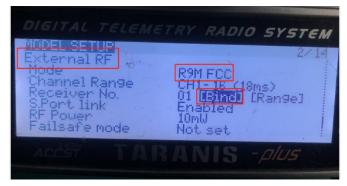
4/ After both R9M TX and R9MM RX are written into the ACCST firmware.

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

34U2	2/13
Mode	XJT D16
Ch. Ran9e RxNum	CH1-16 (18ms)
Antenna	Internal
Failsafe	Not set
External RF	OFF
Mode	UFF





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

	Camera					
Configuration	0 🚖 FPV Camera Angle [degrees]	l≯ Setup Receiver			
Power & Battery						
🕏 Failsafe	Receiver		Configuration	Please read receiver chapter of the documentation. Configure serial port (if required), rece configure channel endpoints/range on TX so that all channels go from ~1000 to ~2000. Set		
	Receiver		Power & Battery When TX is off or out of range. IMPORTANT: Before flying read failsafe chapter of documentation and conf			
	Serial-based receiver (SPEKS	AT, S 🔻 Receiver Mode	Failsafe			tigure talisate.
	Note: Remember to configure	a Serial Port (via Ports tab) and choose a Serial	க் PID Tuning	Roll [A] Pitch [E]	1500	
	Receiver Provider when using R		📩 Receiver	Yaw [R]	1500	
	CRSE	Serial Receiver Provider	2 Modes	Throttle [T]	885 1 <mark>5</mark> 00	
	SPEKTRUM1024	i	₩ Adjustments	AUX 2	1350	
	SPEKTRUM2048 SBUS			AUX 3	1500	
	SUMD		🖶 Servos	AUX 4	2000	-
	SUMH	all flight controllers. If you enable a specific	🔉 GPS	AUX 5	1500	
	XBUS_MODE_B XBUS_MODE_B_RJ01	ave and Reboot', it means that this feature	🛓 Motors	AUX 7	1:00	
	IBUS		c OSD	AUX 8	1500	
	JETIEXBUS	In-flight level calibration		AUX 9	1500	
	SPEKTRUM2048/SBXI	in-ingrit lever cambration	ሳፃ Video Transmitter	AUX 10	1 <u>5</u> 00	
	TARGET_CUSTOM	Servo gimbal 🕜	♣ LED Strip	AUX 11 AUX 12	1500	
	FrSky FPort SPEKTRUM SRXL2	Enable CPU based serial ports	-/- Sensors	000 12	En	
Tethered Logging	SONAR	Sonar	E Tethered Logging			

4/ Mode setting:

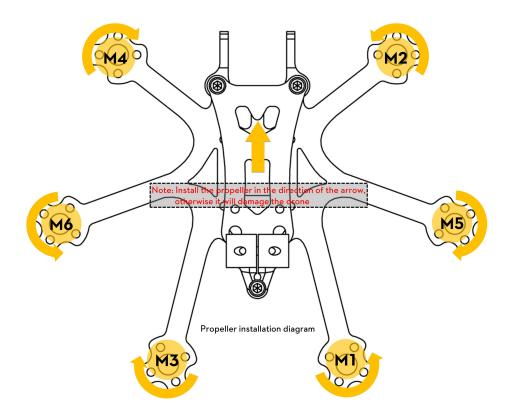
Set the ARM switch and flight mode switch, AUX* corresponds to the remote control switch, and the yellow area mark is turned

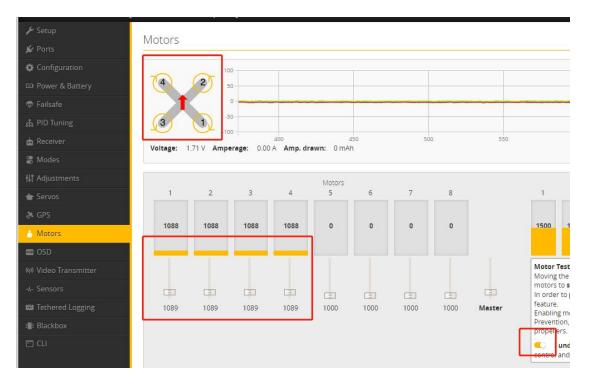
on.

✗ Setup	Remember to save your se	ettings using the Sa	ave button.	
🖌 Ports	Hide unused mo	des		
Configuration	ARM	AUX 2 🔻		
Power & Battery		Min: 1375		
💎 Failsafe	Add Range	Max: 2100	900 1000 1200 1400 1500 1600 1800 2000	2100
ដំ PID Tuning	ANGLE			
📥 Receiver	Add Link			
🗧 Modes	Add Range			
🕼 Adjustments	HORIZON	AUX 2 •		0
🖶 Servos	Add Link	Min: 1700 Max: 2100		T
🔉 GPS	Add Range	Max. 2100	900 1000 1200 1400 1500 1600 1800 2000	2100
🛓 Motors	HEADFREE			
300 OSD	Add Link			
ነት Video Transmitter	Add Range			
🕈 LED Strip	FAILSAFE			
<i>⊪</i> – Sensors	Add Link			
📾 Tethered Logging	Add Range			
Blackbox	GPS RESCUE	AUX 4 🔻		0
🗆 CU	Add Link	Min: 1700 Max: 2100	- Field and the field of the second sec	

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.

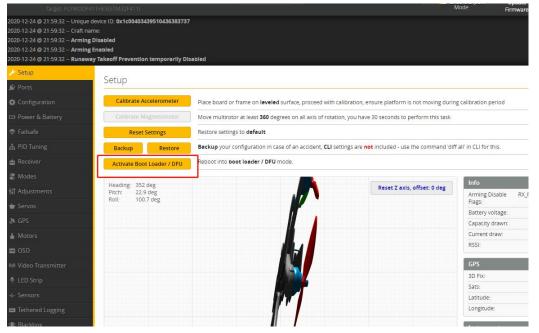




6/ Flight firmware upgrade and write default CLI

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

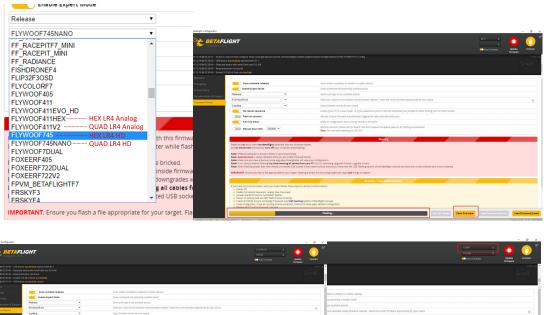
0-12-18 @ 03.24.16 - Using cache 19-12-18 @ 03.24.15 - Using cache	25: Windows, Chrome: 80.0.3597,116, Configurator of release information for configurator releases.	127.0		(Fij 0 0 Auto Correct	Uppersone Uppersone Retermonents Scroll	H ImpulseRC Driver Fixer X		
10-12-18 @ 03:24:21 - Failed to is		convoctalight/unified	d-targets/masket/configs/default/TWD-FLYWCO1411.config					
Welcome Changelog Privacy Policy Documentation & Support Ferrivant Richer	Show unstable releases Tooble Expert Mode Release PLYWOOP411		Deer virtues candidates in abalities to statisfy virtuals Sites exercises of an particular youtable bolist Samb boli open as an evolution bond. Satisfy of the bolist are reference and the prevent ensuingSend the correct prevent appropriate physics bond.		0			
Firmwire Hister	Loading		Select Preware version for your board.					
	No resource		Enable (Fyour PC is in boot mode, i.e. (Fyou powered on your PC with the bootsoater pris pumped or whilst bolding your PCs BOOT builton.	Entable (Fjour PC is the block made, Lin, Syou, privated an your PC with the bootboater pring party field or white bootboater. (PC is BOOT boaton. Addrespring fing the board automatically briggered by every's detected party.				
	Resh on connect		Attempt to fligh the board automatically linggered by newly detected serial parts.					
	Full chip erase		Wipers all configuration data currently stored on the board.					
	Menual baud rate 256000 •		Monuel selection of based rate for bounds that stori's support the default speed or for fitsching via bisenooth. Nexe: Not used when factoring via USB 0-FJ					
			Warning					
	Note: When flashing boards that have directly o	\$ factors			ImpulseRC			
			Recovery / Lost communication					
	 4 point as an operating of the point of the design of the operating of the design of th					Installing DFU driver		

Driver software:

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

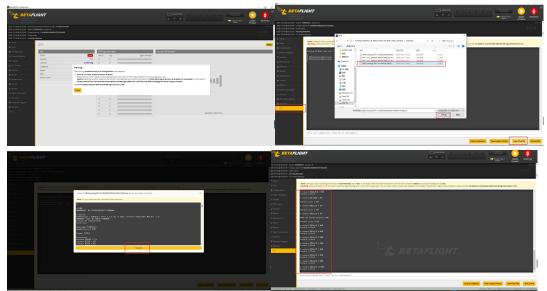
3/ Then load the local HEX firmware and wait for the flashing to complete. A green progress bar is displayed to indicate completion, and DFU will become a COM port



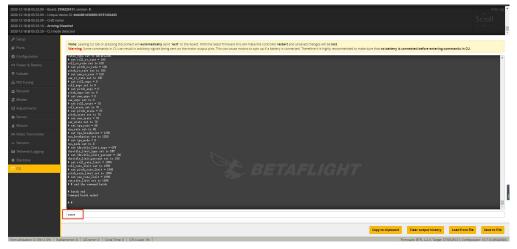


		a see coolicitie collection provide principal solicities - Select the correct formeane appropriate for your board.	
Loading*	Solet/Demonre netslon/Jir your locent.	son for your hourd.	
No rebott sequence	Enable lysour PC is in boor mode. (a. If you powend on your PC with the bootsoder pins jumped or white heiding your PCs 8037 button.	in boot mode. Le. If you observed on your PC with the bootboater sites Jumped or which holding your PCs 80000 botton.	
Raih ce connect	Attempt to flock the doard automatically thiggened by newly detected series ports.		
C full ship erase	Higes of configuration data contently stated on the board.	 board outconstically ibiggened by needy pleasant series pand. 	
Menual baud rate 255000 *	Mercuri selection of housed rate for boards that story support the default speed or for fitshing via bilancesh.	Sun data currently atoms on the board.	
	ware and and participating the case and	about rate for koords that short support the default speed or for flashing via bivetoeth.	
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Please on not by to fact new detailight hardware with this firms	en facture.	Renarg	_
Do not disconnect the board or same off your computer while fail		Provide A second s	
	il Age you configueation. en your 16 for sy, monoring, upgrade dramm, upgrade drawn. et (moin newer boards) ensure you have read the USB Raining section of the Beadlight manual and have the corect software and drawn installed		
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4/ After the connection is entered, it is a blank interface, you need to write CLI commands, Factory CLI LINK: <u>https://flywoo.net/pages/manual</u>



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.

Betaflight Configurator					- a ×
1.151			A THE STREET	Dataflash: free 8.6MB	Update Firmware
20-12-18 @ 05:34:22 - Board: Fl					Scroll
Setup	Setup				WIKI
Ports					
Configuration	Calibrate Accelerometer	Place board or frame on leveled surface, proceed with calibration, ensure platfo	rm is not moving during calibration period		
Power & Battery	Calibrate Magnetometer	Move multirotor at least 340 degrees on all axis of rotation, you have 30 seconds	to perform this task		
• Failsafe	Reset Settings	Restore settings to default			
PID Tuning	Backup Restore	Backup your configuration in case of an accident, CLI settings are not included	use the command 'diff all' in CLI for this.		
Receiver	Activate Boot Loader / DFU	Reboot into boot loader / DFU mode.			
Modes	Contract of the second s			Info	
Adjustments	Heading: 0 deg Pitch: 1.7 deg Roll: 3.3 deg		Reset Z axis, offset: 0 deg	Arming Disable Flags:	RX_FAILSAFE MSP RESC
Servos	HOE: 3.3 Deg			Battery voltage:	0.01 V
GPS				Capacity drawn:	0 mAh
Motors				Current draw: RSSI:	0.00 A 50 %
OSD					
Video Transmitter				GPS	
LED Strip				3D Fix: Sats:	
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