Figuro

# **EXPLORER LR 4 Manual**

**HD** Version





## 1/ drone introduction

Explorer LR quad is the masterpiece of the collaboration between Flywoo and #micro long range original creator Dave\_C . #Micro long range is a brand new field, and we will explore more fun in this field with Dave\_C in the future.



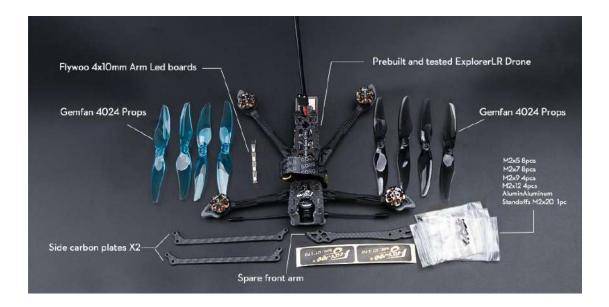
For me personally, Long Range cruising through epic landscapes is the best thing about FPV! But unfortunately, it was always kind of difficult to practice legally and without bothering people with all the noise a massive 6 or 7" long-range quad produces.

So the basic idea behind the original Project #MicroLongRange was born: Scale down a 7" long-range quad until it is below 250g take-off weight. With the support of an awesome community on Facebook and Instagram as well as a massive development effort by Flywoo, this concept has seen a lot of improvements that are now all implemented in the Explorer LR!

This tiny quad is equipped with GPS, Crossfire, and an independent model finder to give you the necessary confidence to push it to the maximum range of digital and analog video transmission. The powertrain with its GOKU 16x16 stack and the all-new 2750kV 1404 motors spinning 4" props is optimized for maximum efficiency and low weight: Flight times of way over ten minutes on a regular 850mah 4S LiPo battery are easily achievable! Cruising speeds of 40-50 kph (25-30mph) are astonishingly high for such a small quad and have allowed me to do 10km (6 miles) round trips easily. And the best thing about it: It's incredibly quiet! You will barely be able to hear it flying by as soon as you are a few dozen meters away. "

-----Dave\_C

## 2/ Configuration and wiring diagram description



#### EXplorer LR 4 Vista / Nebula pro BNF Specification :

Goku F411 V2.1 nano stack 16x16 Dave\_C & Nin 1404 V2 2750kv motors Goku M8N mini gps v2.0 Flywoo Finder v1.0 Gemfan 4024 props Atomic 5.8 G antenna LHCP VTX: CADDX VISTA

#### **Recommend Battery :**

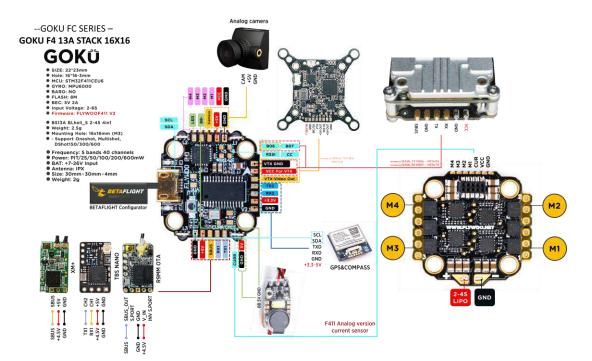
Naked Gopro & SMO 4K & Insta360 go ---Explorer 18650/ Tattu 1050 4s mah -- 650 4s mah

#### Highlights & Specification :

The lightweight 4-inch quad below 250g even if you connect with the battery, meet the current requested of FAA rules. Easy to control and long flight time, we strongly recommend to FPV beginners and pilots who like to cruise! Equipped with GOKU 16X16 MICRO STACK, and NIN 1404 v2-2750kv, support 4s

battery. You can get up to 20 minutes cruising! So this is a quad that is very suitable for FPV beginners and long-range enthusiasts!

It is recommended installing side carbon fiber plate to increase the strength and stability of the Arm.



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 •	RX IN (SBUS/CRSF)
UART2	115200 •		Disabled  AUTO	GPS • 9600 •	Disabled   AUTO	GPS Serial Port
SOFTSERIAL1	115200 🔹		Disabled  AUTO	Disabled • AUTO •	Disabled • AUTO •	VISTA OSD UART

#### CLI:

resource SERIAL\_TX 11 B06----VISTA RX resource SERIAL\_RX 11 B07----VISTA TX SAVE

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

UART2: GPS module, the default baud rate is 9600

SOFTSERIAL1: VISTA OSD UART

## 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

10015 01 Crossfire config 02 FrSky GaSuite 03 FrSky SEC 04 FrSky SxR 05 Grauener HoTT 06 Multi chan namer		Set Failsafe Set Failsafe General Region Max Power Dyn. Power Frequency	Open 250mU Off 915 MHz
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#### R9MM FCC ACCESS OTA:

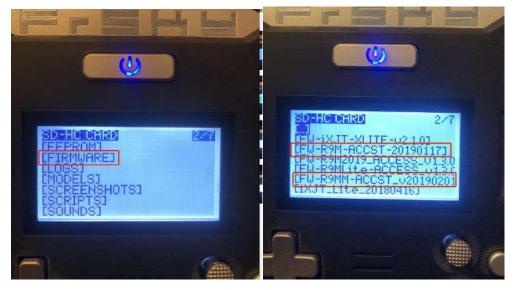
Make sure your remote control supports ACCESS protocol, then follow the link to register and bind

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

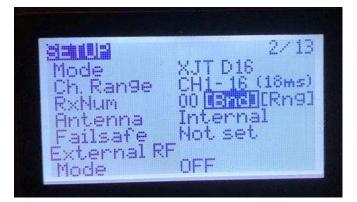
3/ RX is powered on again, and only a green light is displayed, indicating that the binding is successful.

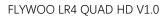


#### XM+ receiver:

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.

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<ul> <li>Configuration</li> </ul>	0 FPV Camera Angle (degreen)		j# Secop	Receiver		
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	SPEKTRUM2048 SBUS			AUX 3	00	
	SUMD		t Service	AUX 4	2040	
	SUMH		\$ 085	AUX S	40	
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	XBUS_MODE_B_RJ01	ave and Reboot", it means that this feature	A STOLL	AUX 7	00	
	JETIEXBUS		🚍 05D	AUX 1	100	
	CRESE	In-flight level calibration	es whien Transmitter	AUX 10	12.00	
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	TARGET_CUSTOM FrSky FPort	Serve Server	and the second second	AUX 12.	00	
	SPEKTRUM SRXL2	Enable CPU based serial ports	Ar Selvars			
Tethered Logging	SONAR	Sonar	and Techenell Logging			

## 4/ Mode setting:

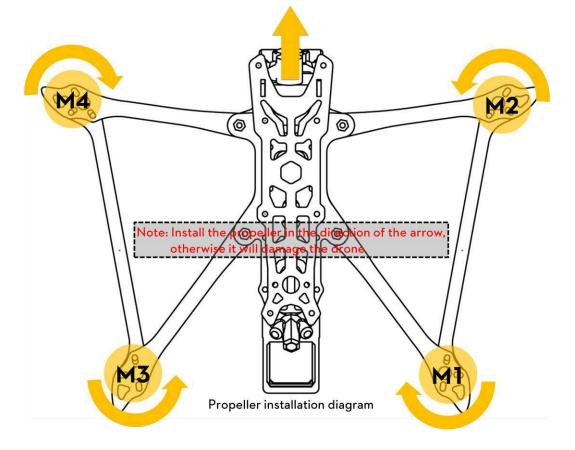
Set the ARM switch and flight mode switch, AUX\* corresponds to the remote control switch, and the yellow area mark is turned on.

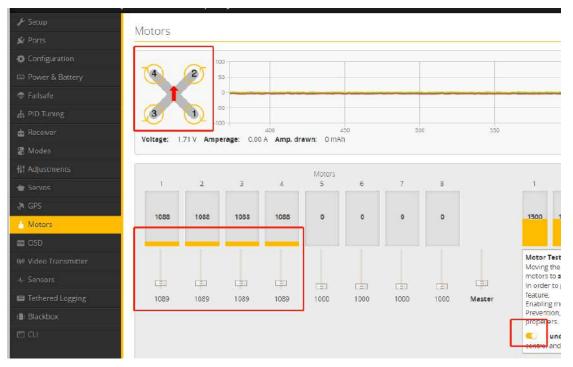
⊁ Setup	Remember to save your s	ttings using the Save button.		
🖉 Ports	Hide unused mo	les		
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## 5/ Motor test:

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/ GPS rescue mode

1/ When GPS finds 5 satellites and locks, it will display latitude/longitude/altitude/distance information.

2/ GPS rescue can only be turned on when the flight distance data exceeds 100 meters, otherwise it will fall directly.

3/ After the GPS rescue is turned on, DRONE will turn around and rise gradually and return to the home location.

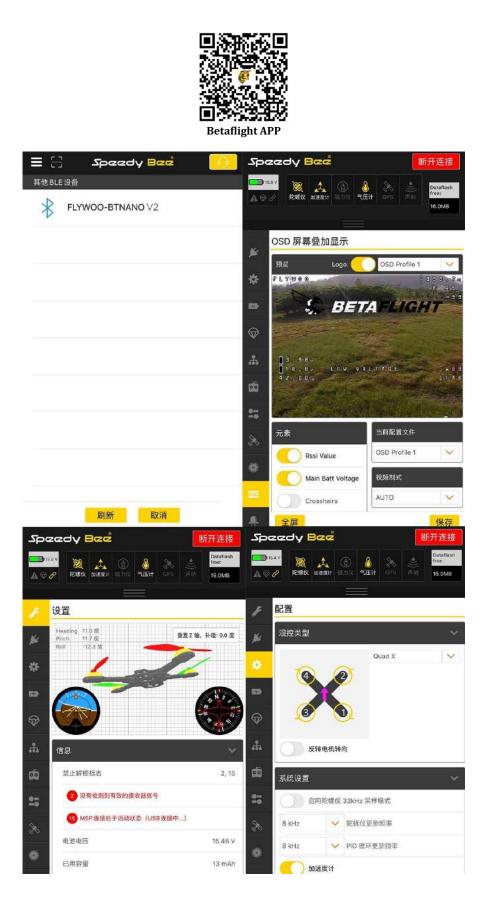
4/ DRONE will not automatically land. When the control is restored, you need to control DRONE to land.



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			1190 C Throbbe minimum	



## 7/ Bluetooth function



## 8/ Finder BUZZER function



#### The buzzer has two modes of operation:

1. It is compatible with the functions of the traditional active buzzer and synchronized with the flight control.

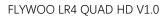
2. When the flight control is normally connected, if the main battery in the flight is powered off, it can still automatically emit 100 dB of drip sound after 30 seconds of power failure, and the LED will emit white light.

To turn off the buzzer: Press and hold the release button for more than 2 seconds, the Finder V1.0 turns off the sound.

## 9/ Flight firmware upgrade and write default CLI

#### 1/ Activate DFU mode

Targer: FL/WOOF4	11HE45TM3254111		Mode Firmware
2020-12-24 @ 21-59:32 Craft nar 2020-12-24 @ 21-59:32 Arming 2020-12-24 @ 21-59:32 Arming	Disabled		
🗲 Setup	Setup		
	betup		
Configuration	Calibrate Accelerometer	Place board or frame on leveled surface, proceed with calibration, ensure platform is not moving durin	g calibration period
	Colorate Magnetometer	Move multirotor at least 360 degrees on all axis of rotation, you have 30 seconds to perform this task	
👽 Failsate	Reset Settings	Restore settings to default	
	Backup Restore	Backup your configuration in case of an accident, CLI settings are not included - use the command 'dif	f all' in CLI for this.
🗄 Receiver	Activate Boot Loader / DFU	Reboat into boot loader / DFU mode	
≣ Modes			(1777-17)
	Heading: 352 deg Pitch: 22.9 deg	Reset Z axis, offset: 0 deg	Info Arming Disable RX
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2 050			855)
W Video Transmitter			GPS
			3D Fix:
			Sats:
		NT I	Latitude:
🕮 Tethered Logging			Longitude:
Blackbox			



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

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An and a second an	An and you and a solution to a solution	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

Release	•			
FLYWOOF745NANO	•			
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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>

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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.

