

QXIO5 BAT

MICRO FPV RACING DRONES

QUICK START GUIDE V1.0



1. Specification

Brand Name: Eachine

Size:112mm*106mm*43mm

Weight: 56.5g (Without battery)

Flight controller: Eachine AIOF3PRO_Brushed built-in OSD

Motor: Coreless 1020 Black Edition CW/CCW

Propeller: 2611 66mm CW/CCW 2-blades propeller

Camera: 600TVL HD CMOS 1/4inch

VTX: 5.8g 25MW 48CH NTSC/PAL Video transmitter

Battery: 3.7V 600mah Lipo battery

OSD: Betaflight OSD

Firmware of Flight controller :Betaflight 3.0.1 (Target:OmnibusF3)

Flight time : 5 minutes (Battery voltage at 2.8v)

Receiver Option:

-Frsky D8 mode SBUS Output 8ch With RSSI output

-Flysky compatible 8ch PPM receiver(AFHDS 2A Mode)

-DSM2/DSMX compatible Receiver



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2. Components	QTY	FRSKY	FLYSKY	DSM2/DSMX	Part NO.
1.5mm 3K carbon fiber bottom plate	1	Include	Include	Include	QX1051
1.5mm 3K carbon fiber top board	1	Include	Include	Include	QX1052
CNC Aluminum camera mount	1	Include	Include	Include	Qx1053
1020 Motor mounting seat	4	Include	Include	Include	QX1054
Eachine 1020 Coreless motor (CW)	3	Include	Include	Include	QX1055CW
Eachine 1020 Coreless motor (CCW)	3	Include	Include	Include	QX1055CCW
AIOF3PRO_BRUSHED FC built-in Frsky receiver	1	Include			
AIOF3PRO_BRUSHED FC built-in Flysky receiver	1		Include		QX1056
AIOF3PRO_BRUSHED FC built-in DSM2/X receiver	1			Include	
3IN1 5.8G 48CH VTX&600TVL Camera	1	Include	Include	Include	QX105V
2611 66MM Propeller(2pcs CW+2pcs CCW)	2	Include	Include	Include	QX105P
3.7V 600mah Lipo battery	2	Include	Include	Include	QX912
Charger cable	1	Include	Include	Include	QX913
1S USB Charger	1	Include	Include	Include	QX95C
Propeller Disassembly tool	1	Include	Include	Include	QX914
Rear Ws2812 LED Board	1	Include	Include	Include	QX95L
Buzzer	1	Include	Include	Include	QX105B



3. 5.8G VTX channels list

$\overline{}$	FR			F	R		
СН	\searrow	GA	GB	GC	GD	GE	GF
	CH1	5740MHz	5705MHz	5865MHz	5658MHz	5733MHz	5362MHz
	CH2	5760MHz	5685MHz	5845MHz	5695MHz	5752MHz	5399MHz
	CH3	5780MHz	5665MHz	5825MHz	5732MHz	5771MHz	5436MHz
сu	CH4	5800MHz	5645MHz	5805MHz	5769MHz	5790MHz	5473MHz
Сп	CH5	5820MHz	5885MHz	5785MHz	5806MHz	5809MHz	5510MHz
	CH6	5840MHz	5905MHz	5765MHz	5843MHz	5828MHz	5547MHz
	CH7	5860MHz	5925MHz	5745MHz	5880MHz	5847MHz	5584MHz
	CH8	5880MHz	5945MHz	5725MHz	5917MHz	5866MHz	5621MHz

Orange:Camera video signal Blue:Video out Red:+5V Black:GND







CAUTION: Read and follow all instructions and warnings in the manual prior to setup or use. Failure to operate the product correctly can result in damage to the product, personal property and/or injury. This is a sophisticated hobby product. It must be operated with caution and common- sense and requires some basic mechanical ability.

4. General Product Safety Precautions

- As the user of this product, you are responsible for operating it safely, not endangering yourself and others, or damaging the product or the property of others.
- Operate your product in open spaces away from people and property.
- Never operate your product with damaged electrical components.
- Keep the transmitter powered on while model is powered on.
- Let parts cool after use before touching, motors will get hot in use.
- Remove batteries after use, as applicable.
- Keep all batteries, chemicals, small parts and anything electrical out of the reach of children.
- Avoid water exposure to this product. Keep parts dry.
- Keep moving parts clean.

5. Flight controller connection diagram





6. Charge the Flight Battery

NOTICE: Inspect the battery to make sure it is not damaged e.g., swollen, bent, broken or punctured. Charge only batteries that are cool to the touch and are not damaged.

Charging with Balance Charger

Connect the 2 batteries and the charge cable ,then connect the cable to 2S Balance charge (Not include) like B3PRO, 3S10D,4S15D, Charsoon DC-4S ,etc. CAUTION: Only use 2 batteries together to charging CAUTION: Once charging is complete, immediately remove the battery. Never leave a battery connected to the charger.



Charging with USB Li-Po Charger

Connect the battery to the USB Li-Po Charger,

then plug into the USB port of your computer

LED STATUS: Solid Red LED --Charging Solid Blue LED --Charge Complete





7. QX105 Frsky BNF Version binding procedue

1. Power for the QX105 while holding the Bind button, the Green LED on the receiver will getting to be solid, this means the QX105 is in binding mode, then release the Bind button.



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2. Turn on your Radio and select D8 mode for the Receiver. Then Go to the Receiver [Bind] option, and ENT to Binding with the QX105. The Green LED on the receiver will turning off, this indicates binding successfully.



3. The default receiver channel map for QX105 Frsky version is TAER1234, please ensure your transmitter is matched with it, otherwise it can't be armed. And the RSSI output was set CH9 . .

Roll	1500	Channel Map		RSSI Chanr	nel
Pitch	1500	TAER 1234	•	9	•
Yaw	1500		1	1	
Throttle	885	PC Doadbard	Yaw Doadband		
AUX 1	1375	RC Deaubaild	Taw Deadband		
AUX 2	1500	0 Ç			0 \$
AUX 3	1:00				-
AUX 4	1500	RC Interpolation			
AUX 5	1500	Auto 🔻 RC Interpolation			0



8. Arm/Disarm QX105 Frsky BNF

1. The Default Arm/Disarm switch for QX105 is AUX1(Channel 5), and you can also customize it with Betaflight Configurator. We also set the AUX2(Channel 6) for change flight mode and AU3(Channel 7) for activate the buzzer which you can customize them too .

1000 0 10 100	- incention	n 4964 E \$V	ai winiti	Control (M. C.	a served at the						
	AUX 1 *										
dd Range	Min: 1400 Max: 2100	900	1000		1200	1400	1508 1	600	0086	2008	2100
UR MODE											
dd Range											

2. Set Arm/Disarm switch for your TARANIS X9D: Move to the MIXER interface, Set "SA" or "SB" switch etc. for Ch5 to ARM/DISARM the motor. Suggest use a 3-steps switch to change flight mode.





3. Toggle the AUX1 Switch, The buzzer starts beeps one time and the Blue LED on the Flight controller will first turning off and get to be solid soon, this indicate the motor was armed. And also you can found "ARMED" shows on your FPV Goggles or the FPV Monitor. Be careful and enjoy your flight now!





9. QX105 Frsky BNF version receiver configuration

We have configured the frsky receiver for the QX105 before shipping. If you flashed the firmware ,Please setup as the following steps: Enable Serial_RX for UART3, then select RX_SERIAL from the RECEIVER Mode and set the Serial Receiver Provider to be SBUS in Betaflight Configurator.

Receiver Mode	
RX_PPM	PPM RX input
RX_SERIAL	Serial-based receiver (SPEKSAT, SBUS, SUMD)
RX_PARALLEL_PWM	PWM RX input (one wire per channel)
RX_MSP	MSP RX input (control via MSP port)
Serial Receiver Provider	
Note: Remember to configure RX_SERIAL feature.	a Serial Port (via Ports tab) and choose a Serial Receiver Provider when using
SPEKTRUM1024 SPEKTRUM2048	
SUMD	



10. QX105 Flysky BNF Version binding procedue

1. Power for the QX105 while holding the Bind button, the Green LED on the receiver will getting to be blinking fast, this means the QX105 is in binding mode, then release the Bind button.





2. Please Ensure the RX setup of your Flysky Radio is in AFHDS 2A Mode. Then Turn on your radio while holding the binding button to Binding with the QX105. The Green LED will turning off for a second and then starting to blinking slowly, this indicates binding successfully. The Green LED is Solid when the connection was established between the QX105 and your Flysky radio.







3. The default receiver channel map for QX105 Flysky version is AETR1234, please ensure your transmitter is matched with it, otherwise it can't be armed.

Roll	12:00	Channel Map. 855 Ch	unmei:
Pitch	1E00	AETR1234	iet •
Verex	1500		100
Throttle	885	No Desthand	
AUX 1	1375	ALCONTRACT THE OWNERS	
AUX 2	1500	0 \$ []	6.0
E XUN	00		
AUX 4	00	IIC interpolation	
AUX 5	12.00	Buto T PC internation	
ALX 6	1500	Pass ne nee personal	
AUX 7	E-00	All second s	
AUK B	1500	Protow	

11. Arm/Disarm QX105 Flysky BNF Version

1. The Default Arm/Disarm switch for QX105 is AUX1(Channel 5), and you can also customize it with Betaflight Configurator. We also set the AUX2(Channel 6) for change flight mode and AU3(Channel 7) for activate the buzzer which you can customize them too .

Use ranges to di activite the mo	efine the switch de, Remember t	es on you o save yi	ar tracism our sectio	itter and gs uting	correspo the Save t	nding mee Kift0.0	Se assignmen	til. A recei	ver channel	that gives a	reading betw	eeu a cange i	x & criver	will
ARM	AUX 1 .													0
Add Bange	Min: 1400 Max: 2100	1 900	* •] 1000		" 170	98 (8 1	1400	1508	1600		100	2008	2100	
AIR MODE														
Add Range														
ANGLE	AUX 2 *	1			10	-							111	¢
Add Range	Mirt 1200 Max 2100	. I	1005		1 1		sans	1505	1000		100	2000	2105	

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2. Set Arm/Disarm switch for your Flysky Radio: Move to the Aux.channels interface, Set "SWA" or "SWB" or "SWC" switch etc. for Ch5 to ARM/DISARM the motor. Suggest use a 3-steps switch (like "SWC" of the Flysky I6) to change flight mode .



3. Toggle the AUX1 Switch, The buzzer starts beeps one time and the Blue LED on the Flight controller will first turning off and get to be solid soon, this indicate the motor was armed. And also you can found "ARMED" shows on your FPV Goggles or the FPV Monitor. Be careful and enjoy your flight now!





12. QX105 Flysky version receiver configuration

We have configured the flysky receiver for the QX105 before shipping. If you flashed the firmware ,Please setup as the following steps: Select RX_PPM from the RECEIVER Mode.

orts					0
lote: npt	all combinations are valid. Why	en the flight controller firmware dete	its this the serial port configuration	on will be reset.	
ore pu	tor to sache sitor tor the little in	in portaines portaines and parts	r ang manay are to read	rant man jour to right	and a guid bu
sintifiar	Data	Logging	Taternatry	5.00	GPS
SE VCP	MSP 115200 •	Blackbox 115200 •	Disabled · AUTO ·	Senal RX	57600 •
ALL	MSP 115200 •	Blackbox 115200 •	Disabled • AUTO •	Serial RX	57600 •
RT2	M5# 115200 •	Blackbox 115200 •	Disabled • AUTO •	Serial RX	57600 •
leceiv	ver Mode				
🖲 RX	_PPM	PPM RX input			
🕞 RX	SERIAL	Serial-based re	ceiver (SPEKSAT, SBL)S,	SUMD)	
© RX	_PARALLEL_PWM	PWM RX input	(one wire per channel)		
RX	(_MSP	MSP RX input (control via MSP port)		
erial	Receiver Provider				
Note RX 55	: Remember to config RIAL feature	gure a Serial Port (via Port	s tab) and choose a Ser	ial Receiver Provid	der when using
enev	TDU141024				
SPEK	TRUM2048				ĩ
SBUS					
SUMP)				



13. QX105 DSM2/DSMX BNF Version binding procedure and Satellite receiver setup

1.The QX105 DSM2/DSMX BNF Version is integrate a DSM2/DSMX compatible Satellite receiver. The binding procedure is like

following:

(1)Connect QX105 DSM2/DSMX BNF Version to computer and open Betaflight configurator, From CLI tab type: "set spektrum_sat_bind = 9" for DSMX radio or "set spektrum_sat_bind = 5" for DSM2 radio

(2)Type "save" and after Flight controller reboot remove USB cable (=Power off the board)

(3)Wait a second and reconnect the USB cable. After cold start satellite led(Orange color LED) should start blinking and transmitter should be turned on while pressing the bind button

(4)After binding satellite led should be solid. Connect Betaflight and use receiver tab to test that satellite is working correctly.

(5)Final step is to go to CLI tab and type "set spektrum_sat_bind = 0" and then type "save". This must be done so that satellite doesn't go back to binding mode when the QX105 is repowered again.



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2. The default receiver channel map for QX105 DSM2/DSMX Version is TAER1234, please ensure your transmitter is matched with it, otherwise it can't be armed.

Roll	15,00	Channel Map		ASSI Channel	
Pitch	12:00	TAER1234		Disabled	
Yaw	1200		11021	It. sectors and	
Throttie	885	BCD	Van Percellund		
ALX 1	1375		and considering		
AUX 2	1500				0.0
ALIX 3)			
AUX 4	15 00	RC Interpolation			
ALX 5	1200	Auto T SC Interpolation			- 0
AUX 6	E (E0)	Total Total Total Total Total Processor			
ALDC 7	E 00				_
AUX 8	12:00	PENON			

14. Arm/Disarm QX105 DSM2/DSMX BNF version

1. The Default Arm/Disarm switch for QX105 DSM2/DSMX BNF Version is AUX1(Channel 5), for most of Spektrum radio the default channel 5 is Gear switch and you can also customize it with Betaflight Configurator. We also set the AUX2 (Channel 6) for change flight mode and AU3(Channel 7) for activate the buzzer which you can customize them too. Suggest use a 3-steps switch to change flight mode.

lodes														1	MEKI
Use ranges to di activate the mos	efine the switche de. Remember to	es on your s arre you	r biohsmitte ur settings u	r and cor sing the	respondin Save truttr	g mode as m	signmer	ta. A recei	er channe	I that give	s a reading l	between	a range :	nin/max	will
ARM	AUX 1 ¥														¢
Add Range	Min: 1400 Max: 2100	900	1000		1,250		1100	1500	1600		1800		2000	1 2103	
AIR MODE															
Add Range															
ANGLE	AUX 2 💌									74 . 3	14 ×				0
Add Range	Max 2100	900	1000		1200		1400	1500	1600		1800		2000	2100	



2. Turn on the transmitter and set a switch for CH5 to ARM/DISARM the motor, some transmitter like SPECKTRUM DX6/DX6I, the default CH5 is GEAR Switch.

3. Toggle the AUX1 Switch, The buzzer starts beeps one time and the Blue LED on the flight controller will first turning off and get be solid soon, this indicate the motor was armed. And also you can found "ARMED" shows on your FPV Goggles or the FPV Monitor. Be careful and enjoy your flight now





15. QX105 DSM2/DSMX BNF version receiver configuration

We have configured the satellite receiver for the QX105 before shipping. If you flashed the firmware ,Please setup as the following steps: Enable Serial_RX for UART3 and Set Receiver mode RX_SERIAL ,Select SPEKTRUM1024 for DSM2 Radio and Select SPEKTRUM2048 for DSMX Radio in Betaflight Configurator.

Identifier	Dete	logging	Telemetry	RX	GPS
USB VC7	MSP 116200 •	BUC <dok 116200="" td="" •<=""><td>Disabled • AUTO •</td><td>Surial RC</td><td>(TB) 67600 ·</td></dok>	Disabled • AUTO •	Surial RC	(TB) 67600 ·
UKRTI	M51 115200 ·	Biscyber 115200 *	Disacled • AUTC •	Senial RC	(JB) 57600 ·
08417	() Mine (115200 •	115200 •	Disabled • AUTO •	💭 Serial RK	57500 •
LIARTS	(300 MSP 115400 •	Blackbox HEgdll +	Disabled T AUTO T	30 km+l 💭	(III) 5/000 ·
Receiv	er Mode				
© RX	PPM	PPM RX input			
🖲 RX	SERIAL	Senal-based rec	eiver (SPEKSAT, SBUS, SU	MD)	
⊖ RX	_PARALLEL_PWM	PWM RX input (one wire per channel)		
⊜ RX	MSP	MSP RX input (c	ontrol via MSP port)		
Serial	Receiver Provider				
Note: RX_SE	Remember to config RIAL feature.	ure a Serial Port (Via Ports	tab) and choose a Serial	Receiver Provide	er when using
ODEIC	CDU MARDOA				



16. OSD configuration

1. Connect the QX105 to the computer , open Betaflight Configurator , move to the OSD option, then you can configure the layout of the OSD.

ements	Preview (drag to change position)	Logo	Video Format	
💟 Rosi Value	A ALL DE LOUGH		® AUTO ⊕	AAL @ NTSC
🚺 Main Batt Voltage	Contraction and		1000	
Crosshains	BETALL	SHI	uriets	
C Arofical Horizon			OF IMPERIAL	I MEHOL
🔾 Horizon Sidebars		200	Adarmis	
Contime	Later and the second	E WESSEL	20	i Posi
💭 Flytinie	and the second s	R. W. S. L.	2200	¢ Capadity
Plymode		Construction of	100	 Minutes Altitude
🚺 Eraft Náme	ant: REPART INC.	86 4133		1999
Throttle Position	10 B . B	A CONTRACTOR		

2. Craft Name set is in configuration option

₽ 5mp:		Nate Remember to configure a Secure Post bia Point tabuarter using (PS)
∰200	Other features	feature
 Configuration 	Note: Some of the features of the formage are out shown in this list and	(JB) (25 CF5 for navigation and teleminery ()
the Pill Sugar	more, because they have been maked to other places in the configurator.	NNEA · Popular
a decent	INFLIGHT_ACC_CAL IN FUTURE CALIFORNIA	Auto-datact • Ground Assistance Type
2 Million	CIERTO SERVO,TE1 Servo gritor	(con a) sedirection recording
🛦 Steens	CIED SOFTSBRIAL Trialle CPU taskit anna porta	30
# OED	CIIII SONAA Sonar	and a Developed Inc.
	TELEMETRY Selementy output	Max - Difference in the
	3D mode (tor use settineweighte	tern () 30 hermal
	LED_STRIP Multi-color PEA LED corp support	a 2 30 Deathant Truste
	DIPLAT DUD SOWE DEpay	
	высказак Варлон Пулгана recorder ()	Misc
	CHARACE, JOHRMADINE Toreard and characes to neve	CATES Craft name

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18. LED Strip status

17. LED Strip function

The flight controller of QX105 can control colors an effects of individual LEDS on a strip. The default setup is like this, you can also customize by yourself effects.





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*User manual is subject to change without prior notice.