TYRO79

QUICK START GUIDE (DIY)





Package included:

1 x 140mm racing frame kit 2 x 1607 2800KV brushless motor CW 2 x 1607 2800KV brushless motor CCW 1 x 4 IN 1 20A BLHeli_S ESC 1 x Customized F4 flight controller 1 x 700TVL CMOS camera 1 x 5.8G 40CH 0mw/25mw/200mw switchable VTX 2 x 3030 4-blade propeller CW 2 x 3030 4-blade propeller CCW



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1.0 Frame kit

Wheel base: 140mm Bottom plate thickness: 3mm Side plate thickness: 1mm Frame kit material: 3K carbon fiber & 6065 aluminium



2.0 Motor

KV: 2800KV Lipo cell: 2-4S Weight: 17.8g (includes wires) Output shaft length: 14mm Maximum pull: signal 630g (4S 3030 4-blade propeller) Maximum power: 350W Configu-ration: 9N/12P Mounting holes distance: 12*12mm Mounting holes: ϕ M2 Bearing: NSK N52 Strong NdFeB Magnet Recommend propeller: 3 inch



3.0 ESC

Continuous current: 20A Peak current: 25A (10S) BEC output: no Input voltage: 2-4S Main control chip: 48mhz EFM8BB2 Firmware upgrade: Supports Dshot600/BLHeli_S/Oneshot125 MOS: 3*3 MOS type: vs3610ae 30v64a





4.0 Flight controller

Main control chip: STM32F411 Sensor: ICM20602 6-axis Integrated OSD PPM/DSM/IBUS/UAR share: UART1-RX Mounting holes distance: 20*20mm Weight: 24g PID circulation rate and refresh rate can up to 32kHz Supports Betaflight/cleanflight/inav firmware





Supports TBS SmartAudio Transmitting power: 0mW/25mW/100mW/200mW switchable Channel: 40CH Full video format: NTSC/PAL Input voltage: 7V~24V Power dissipation: +12V/600MW Size: 25×20×6mm Weight: ≤3.2g (except antenna)

There are two ways to control the frequency and power of the launches:

Enter the release: FEATURES->VTX SA can enter the following interface.

<1> uses remote control to visualize control, as shown in Figure 1.1



Figure 1.1

The second row is the status bar, respectively. F:freestyle modeF5: is now in frequency band F, fifth frequency point. 5820: now has a frequency of 5820. 500: now has a transmit power of 500MW Third lines BAND: indicates frequency band, and BAND can be modified by remote control.A (BOSCAMA) B (BOSCAMB) E (BOSCAM E) F (FATSHARK) F (E) Fourth lines CHAN: represents frequency points, and the 1---8 can be modified by remote control. **Fifth lines** (FREQ): indicate the corresponding frequency now, changing with the band and Chan above. Sixth lines POWER: indicates the transmission power and can be adjusted.

Seventh lines

SET: Enter and select YES to confirm your BADN, CHAN, POWER settings and take effect immediately., as shown in Figure 1.2 below



Figure 1.2

Eighth lines The CONFIG: function is set in, as shown in Figure 1.3 below.



Figure 1.3

OP MODEL: mode adjustment, with free mode and race mode, needs reboot to take effect.

FSEL MODE: regulates frequency setting mode, CHAN and user, user mode is temporarily invalid.

PIT FMODE: PITMODE mode, with PIR and POR mode.

In the POR mode, POR FREQ: can enter into any frequency between 5300-5900, as shown in Figure 1.4.



Figure 1.4

STATX: status information

<2>XMM-VTX is operated by a button with three LED lights (red) light CH1-8; blue light BAND1-5; green light power 1-3 <25-100-200 mW>)and TBS Smart Audio remote control operation. Keyboard operation: Long press 3S (three LED indicators are all on) to open and enter CH switching operation, and the red light will flash, flashing once represents the currentCH1 (2-8 times for CH2-CH8 respectively). At this time, a short press of the key CH plus 1 will flash the corresponding number of times. CH1-8 cycle. Press the button 3S (three LED lights are all on) to open and enter the BANDswitching operation, and the blue light will flash. The flash once represents the current BAND1 (2-5 times for BAND2-BAND5 respectively). At this time, press the button BAND plus 1, and the blue light will flash correspondingly. BAND1-5 cycle. Press the button 3S (three LED lights are all on) again to open the power switching operation, and the green light will flash, one time represents the current power of the first grade (2-3 times for the green light flashing respectively), at this time, press the button power to add one gear, and the green light will flash the corresponding number of times. Power stall 1-3 cycle. Press the button 3S again (3 LED lights are all bright) to release the above settings again. Note that the previous settings will not be saved if the power is off before saving. For example, if CH is only set, it is also necessary to press 3S three times longer to save the settings. Long press button 8S (green light) guit PIT mode.

Band								
Band-A								
Band-b								
Band-E								
Band-F								
Band-r	5658	5695	5732	5769	5806	5843	5880	5917

Note: In the remote control, the power of 25 corresponds to the actual 25 mW, 200 corresponds to the actual 100 mW, and 500/800 corresponds to the actual 200 mW.

6.0 Camera

Case size: 19mm*19mm Weight: 9.5g Total pixels: PAL: 1020H×596V (0.61MP); NTSC: 1020H×508V (0.52MP) Effective pixels: PAL: 976H×582V (0.57MP); NTSC: 976H×494V (0.48MP) Signal system: PAL/NTSC switchable Resolution ratio(horizontal center): 700TVL Video output: 1.0Vp-p/75Ω Automatic gain control: 0.25/0.50/0.75/1.00, up to 55dB White balance: off Exposure mode: electron exposure Electronic shutter: 1/50(1/60) - 1/100000 S Gamma correction: 0.45/1.0 Synchronization method: inter-sync Camera lens: standard 2.1mm Lens operating voltage: DC 5-12V Working current: 70mA (low power consumption) Working temperature: -20°C[~]−60°C Humidity: 0%~98%

7.0 Screws



8.0 Adjusting parameter

1.Click connect connection

Betaflight Configurator		- 1	a ×
	COM7	6	¢,
BETAFLIGHT			<u> </u>
Configurator: 10.0.0-rc3	Auto-Connect	5	lect
2018-08-30 @ 17:41:50 Unique device ID: 0x3300484e44500620333352			Hide Log
2018-08-30 @ 17:41:50 Craft name:			
2018-08-30 @ 17:41:50 - Arming Disabled			
2018-08-30 @ 17:41:52 - Arming Enabled			
2018-08-30 @ 17:41:52 Serial port successfully closed			

2: Click the RX interface under UART2 under the ports option, as shown in the figure.

Ports	Ports					WIR
Configuration				ware detects this the serial port configur what you are doing. You may have to refi	ation will be reset. ash and erase your configuration if you do	
	Identifier	Configuration/MSP	Serial Rx	Telemetry Output	Sensor Input	Peripherals
	USB VCP	115200 🔹		Disabled • AUTO •	Disabled • AUTO •	Disabled • AUTO •
	UART1	115200 •	.2	Disabled • AUTO •	Disabled • AUTO •	Disabled • AUTO •
	UART2	115200 •	 *	Disabled • AUTO •	Disabled • AUTO •	Disabled • AUTO •
	UART3	115200 *		Disabled • AUTO •	Disabled V AUTO V	Disabled V AUTO V

3: Click CONFIGURATIN to change to dshot600.

	vill use the ports.	
Mixer	ESC/Motor Features 3	
Quad X	DSHOT600 ESC/Motor protocol	0
To or	MOTOR_STOP Don't spin the motors v	hen armed
4	Disarm motors regardless of throttle value (Whe	in ARM is configured in Modes
	tab via AUX channel)	0

8.0 Adjusting parameter

4: Click CONFIGURATIN; change to SBUs

🗲 Setup	Serial-based receiver (SPEKSAT, 5 * Receiver Mode	RSSLADC Analog RSSI input
🖆 Ports		RSSCADE Analog RSSI IIput
 Configuration 	Note: Remember to configure a Serial Port (via Ports tab) and choose a Serial Receiver Provider when using RX_SERIAL feature.	
Power & Battery	SBUS Serial Receiver Provider	
A PID Tuning		
d Receiver	Other Features	3D ESC/Motor Features
2 Modes	Note: Not all features are supported by all flight controllers. If you enable a specific feature, and it is disabled after you int Save and Reboot, it means that this feature is not	3D 3D mode (for use with reversible ESCs)

5: Click modes, add arm and angle, drag the slider between 1300 and 1700, and set arm to AUX1 and angle to aux2



6: Push the slider to test the positive and negative rotation of the motor, such as error,



7: Click font manager, select betaflight, click upload font

2018-08-30 @ 17:42:42 - Armin		OSD Font Manager							×		
per Ports	OSD	Font presets:	Default Bo	id Large	Extra Large	etaflight Digita	Clarity	Open Font Fil	e		WIKI
Configuration	Note: OSD p										
D Power & Battery		- 00 \$ 47 10 4 8 4 8 2 8 1 8 9 4									
🚓 PID Tuning	Elements	88	(1) \ """	· · · · · · · · · · · · · · · · · · ·			HE DE S				
de Receiver	CI Rssi Va				1	7			AL O NTSC		
2 Modes	Call Marrie				loload Font						
🛔 Motors	I Artifica				production				METRIC		
CSD SD	CIP Horizo			_				linter			
I Blackbox	O Timer 2			-					rce: ON TIME		
🖽 cu	Olli Flymod									•	
	OID Craft N							Ala	rm: 10 •		
	Cille Vox Cha							2 500	rce: TOTAL ARMED	TIME .	
										Font Manager	Save

8: Click setup, calibrate accelerometer

Setup	Setup				WIKI			
	setup	8			WIKI			
	Calibrate Accelerometer	Place board or frame on leveled surface, proceed w	ith calibration, ensure platform is not moving during calib	ration period				
	Calibrate Magnetometer	Move multirotor at least 360 degrees on all axis of rotation, you have 30 seconds to perform this task						
	Reset Settings	Restore settings to default						
	Backup Restor	Backup your configuration in case of an accident, C	LI settings are not included - See 'dump' cli command					
	Heading: 6 deg		Reset Z axis, offset: 0 deg	Info				
	Pitch: -0.5 deg		and a start of the start of the	Arming Disable Flags:	2.16			

9.0 Motor Unlock/lock

Motor Unlock

Put the throttle rocker at the lowest point, move the rudder rocker to the right and keep it for more than 2 seconds. The blue state indicator is always on, that is unlock the motor.



Motor lock

Put the throttle rocker at the lowest point, move the rudder rocker to the leftmost side, and the red state indicator is always turned on to lock the motor. At this time, pushing the throttle rocker motor upward will not rotate.



10.0 Traversing flight



- 1). Flying is more suitable for experienced pilots.
- 2).During the flight, please keep the flight within the video receiving range (the actual range depends on the flight environment and weather conditions).
- 3).During flight, please avoid crowd, animals and High voltage wires and other obstacles