



**LDARC®**

**Instruction manual**

# **TINY R7**

---

---

- \* Original BetaFlight SPRACINGF3 firmware
- \* Support BetaFlight FLIP OVER function
- \* Texas Instruments DRV8850 brush motor driver, 5A continuous 8A peak-drive current each way

**Motor protocol must use DSHOT150**

User manual and video please visit: [WWW.LDARC.COM](http://WWW.LDARC.COM)

# TINY R7 Configuration



Wheelbase:75mm  
 Prop:40mm-4  
 FC Firmware:Betaflight SPRACINGF3  
 Motor Driver:Texas Instruments DRV8850 brush motor driver, 5A continuous 8A peak-drive current each way  
 VTX:25mW 16CH  
 Camera:199C(800TVL 150° )  
 Motor:820 Brushed(16000KV)  
 Battery:3.8V 450mAh 50C  
 Charger(4.2V/4.35V):  
     Basic combo+RTF(1-WAY 4.2V/4.35V Charger)  
     Advanced(6-WAY 4.2V/4.35V Charger)  
 Weight:38.8g(Dual-mode receiver inside FC , not include battery)  
 Weight:37.9g(not include battery and receiver)  
 Receiver options:  
 ①Dual-mode receiver inside FC:S-FHSS+D16  
 ②NO RX ③FM800 ④DSM2 ⑤FS-RX2A

## Package List

### Basic combo



TINY R7\*1



Battery\*1



1-WAY 4.2V/4.35V  
Charger\*1



TINY meter 1S\*1



Prop tool\*1



Wire(PH2.0)\*2

### Advanced combo



TINY R7\*1



Battery\*5



TINY Case+  
Charger\*1



TINY meter 1S\*1



Battery\*1



Carrying case\*1



TINY meter 1S\*1



3 Canopies  
(yellow/red/pink)



40mm Prop\*6Pairs



TINY meter 1S\*1



1-WAY 4.2V/4.35V  
Charger\*1



TINY X8\*1



Prop tool\*1



Wire(PH2.0)\*2



Prop tool\*1



Wire(PH2.0)\*2

### RTF



TINY R7\*1



Battery\*1



Carrying case\*1



TINY meter 1S\*1



1-WAY 4.2V/4.35V  
Charger\*1



TINY X8\*1

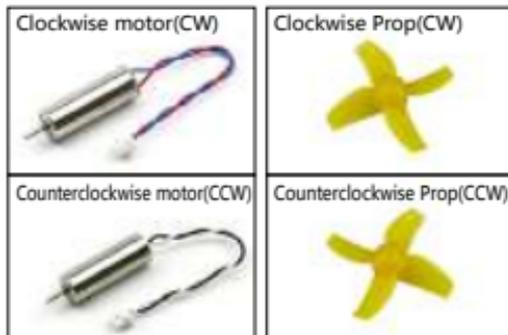
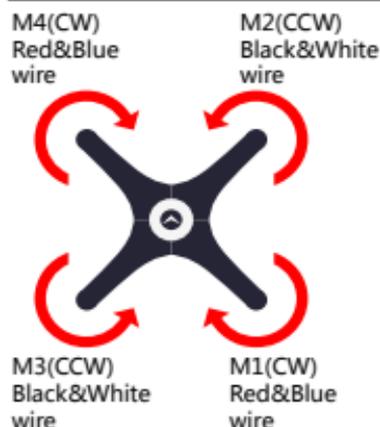


Prop tool\*1



Wire(PH2.0)\*2

## Motor



Note: Pay attention to the direction of motor and prop

Please replace the power plug after 100 flight or power plug changed black.

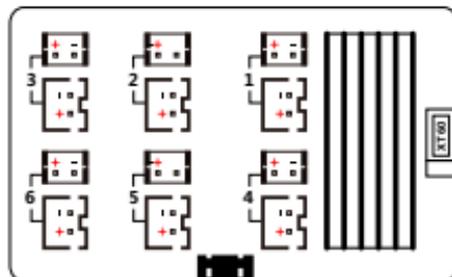


**Charger** Absolutely forbidden use 4.35V voltage charge 4.2V battery

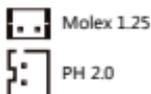
## 6-WAY 4.2V/4.35V Charger

- 6-WAY 500mA 4.2V/4.35V Lipo charger (Default 4.35V)
- 2~4S(7~18V) XT60 or USB power input
- Power by XT60: 1 2 3 4 5 6 WAY
- Power by USB: 4 5 6 WAY
- LED ON : Charging
- LED OFF: Charge finish

Molex 1.25 PH 2.0



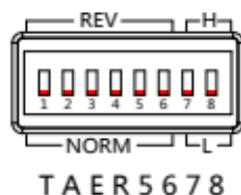
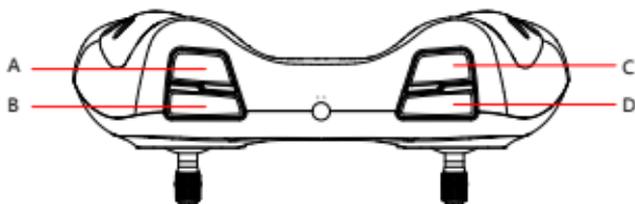
# 1-WAY 4.2V/4.35V Charger



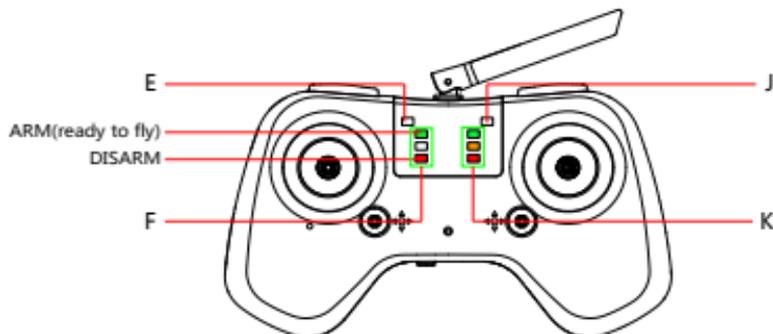
4.2V/4.35V Switchable  
(Default 4.35V)

## Transmitter

Transmitter firmware : [WWW.KINGKONG-RC.COM/TX/X8](http://WWW.KINGKONG-RC.COM/TX/X8)



- <A> : DISARM
- <B> : ARM(ready to fly)
- <C> : Click this key run FLIP OVER after crash.
- <D> : Only ANGLE mode default, MANUAL and HORIZON mode need set yourself in BetaFlight.



<E> : Battery power level LED : suggest charged battery when middle power

LED	Battery status
keeps on	High power (above 70%)
slow flash	Middle power (30%~10%)
fast flash + buzzer	Low power (less than 10%)

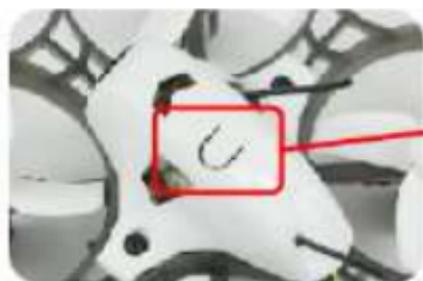
<F> : 5 channel position switch indicator(green LED ARM,red LED DISARM).

<J> : RF indicator.

<K> : 6 channel position switch indicator(fly mode setting, green,yellow,red LED all ANGLE mode default).

# VTX

Q25G2H (25mW 16CH, input voltage 3.6~5.0V)



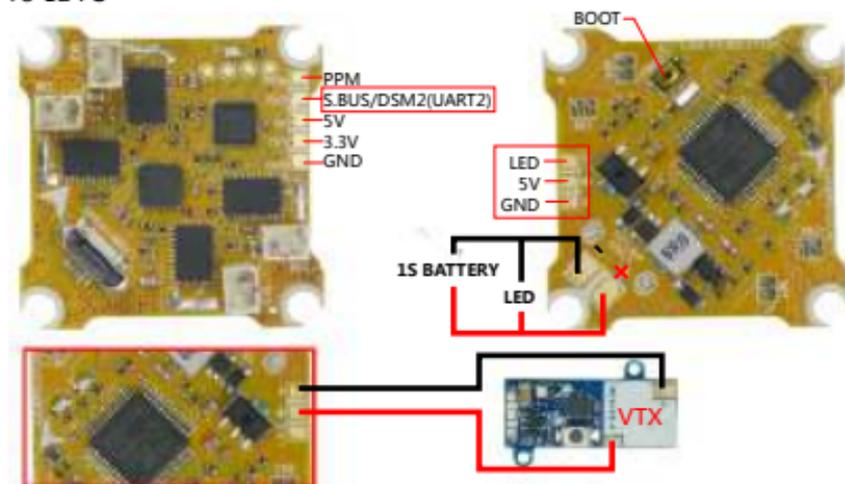
Frequency button

## Frequency Table

		5658Mhz			5806Mhz			5705Mhz			5790Mhz
		5695Mhz			5843Mhz			5740Mhz			5820Mhz
		5732Mhz			5880Mhz			5760Mhz			5860Mhz
		5769Mhz			5917Mhz			5780Mhz			5945Mhz

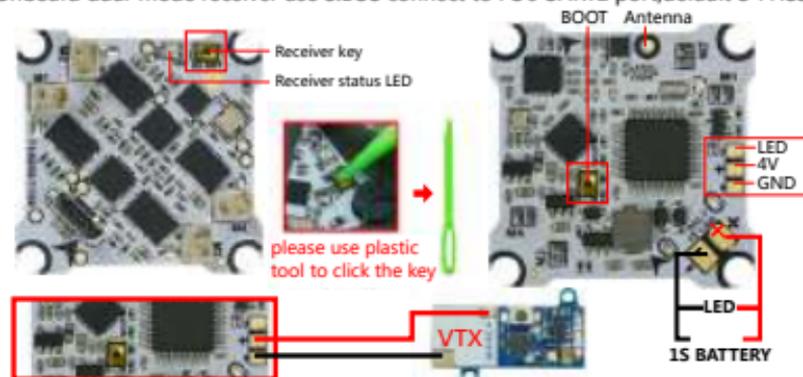
**FC** Firmware:SPRACINGF3,motor protocol must use DSHOT150.

F3-B2 FC



### F3-B2RX FC(Dual-mode S-FHSS+D16 receiver inside FC)

Onboard dual-mode receiver use S.BUS connect to FC's UART2 port,default S-FHSS.



Receiver status LED will blink twice then solid when power on, the meaning as follow.

First blink 【receive mode】	Second blink 【failsafe mode】	Then solid 【signal status】
■ FUTABA S-FHSS	■ Failsafe mode 1	■ No signal
■ FRSKY D16	■ Failsafe mode 2	■ Signal received

BIND: check receive mode before bind, the first blink after power on indicate the setting ■ is S-FHSS , ■ is D16.

FUTABA S-FHSS BIND	FRSKY D16 ( NO Telemetry ) BIND
Turn on the TX then power on receiver while pressing the key, green LED fast blink meaning already in bind mode, user can release the key. Bind procedure is completed and the receiver is working normally when green LED is solid.	Power on receiver while pressing the key, green LED fast blink meaning already in bind mode, user can release the key, then set your TX into D16 bind mode. red LED solid meaning bind finished, exit TX from bind mode, receiver' s green LED solid meaning working normally.

FAILSAFE: second blink after power on indicate failsafe setting, please make sure failsafe is working correctly !

■ FAILSAFE MODE 1	■ FAILSAFE MODE 2
After 1 second when lost transmitter signal, S.BUS keep output, Throttle will 988us, all other channels will 1500us.	After 1 second when lost transmitter signal, S.BUS not output, user should setting related parameters to ensure flight controller handle failsafe.

FAILSAFE MODE AND RECEIVE MODE SWITCH:

FAILSAFE MODE SWITCH	RECEIVE MODE SWITCH
Press the key and hold when receiver working normally, the LED will go off, after 3 seconds yellow LED will blink once, release the key receiver will switch to another failsafe mode then restart automatic, LED will blink twice then solid, for definitions of LED please reference STATUS LED define above.	Press the key and hold when receiver working normally, the LED will go off, after 3 seconds yellow LED will blink once, keep hold until yellow LED solid, release the key receiver will switch to another receive mode then restart automatic, LED will blink twice then solid, for definitions of LED please reference STATUS LED define above.

# Firmware version and setting

1. Software



2. Firmware version (Picture 1)

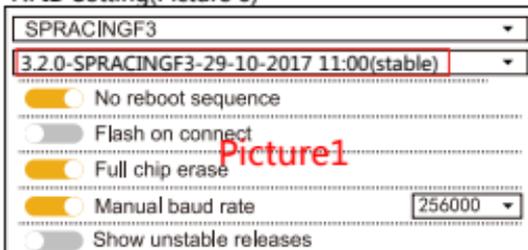
3. Default 4K (Picture 2)

**4. Motor protocol must use DSHOT150 (Picture 3)**

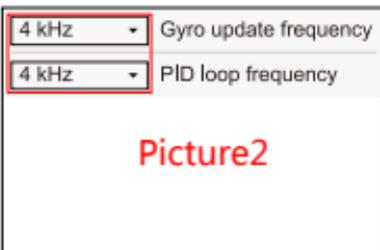
5. BUS and DSM2 receiver must enable UART2 (Picture 4)

6. Default setting ARM function use AUX1 channel (Picture 5)

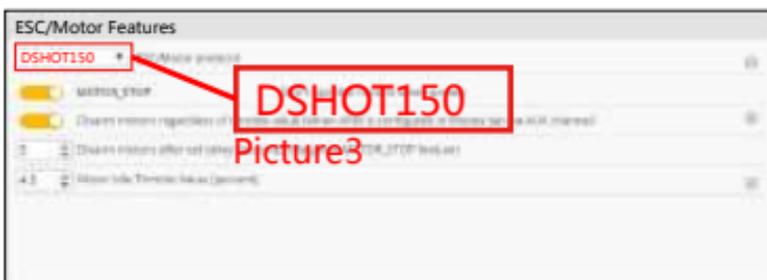
7. PID Setting (Picture 6)



Picture1



Picture2



DSHOT150

Picture3



Picture4



Picture5

	Proportional	Integral	Derivative
Base/Acto			
ROLL	40	40	30
PITCH	58	50	35
YAW	70	45	

Picture6

## FLIP OVER AFTER CRASH

### Setting

- 1.Enable FLIP OVER AFTER CRASH mode
- 2.Setting transmitter 7CH switch is AUX3.



### Operation

- [STEP 1] multicopter DISARM (5CH AUX1=1200, THR need less than 1000)
- [STEP 2] enable flip over function (7CH AUX3=1800)
- [STEP 3] multicopter run flip over while ARM (5CH AUX1=1800), flip over can repeat if turn DISARM (5CH AUX1=1200) then ARM (5CH AUX1=1800) again
- [STEP 4] shut down flip over function (7CH AUX3=1200) the multicopter can fly.

TINY X8 radio FLIP OVER prog. mix firmware can support one-click automatic flip over  
 TINY X8 radio firmware download [WWW.KINGKONG-RC.COM/TX/X8](http://WWW.KINGKONG-RC.COM/TX/X8)

## Product and Factory Code

Name	Factory Code
TINY R7 PNP Basic combo	PNP.TINY R7 BASIC COMBO (S-FHSS+D16/FM800/FS-RX2A/DSM2/NO RX)
TINY R7 PNP Advanced combo	PNP.TINY R7 ADVANCED COMBO (S-FHSS+D16/FM800/FS-RX2A/DSM2/NO RX)
TINY R7 RTF	RTF.TINY R7
TINY R7 KIT	KIT.TINY R7
TINY 7X Main frame(2 PCS)	PART.TINY 7X MAIN FRAME(2 PCS)
820 Motor(CW+CCW)	MOTOR.820(CW+CCW)
Q25G2H VTX+199C Camera	VTX+CAM.Q25G2H+199C
199C Camera	CAM.199C
Q25G2H VTX	VTX.Q25G2H
F3-B2 FC	FC.F3-B2
F3-B2RX FC(S-FHSS+D16)	FC.F3-B2RX(S-FHSS+D16)

40mm-4blade prop(1mm)	PROP.40MM.4(1MM)
1-WAY 4.2V/4.35V Charger	CHARGER.1-WAY 4.2V/4.35V
TINY Charger 1S	CHARGER.TINY CHARGER 1S
TINY Case+Charger	PART.TINY CASE AND CHARGER
Case(TINY 7X RTF)	PART.CASE(TINY 7X RTF)
Battery 3.8V 450mAh 50C	BAT.3.8V 450MAH 50C
TINY meter	CHARGER.TINY METER
TINY R Canopy(4 color)	PART.TINY R CANOPY(4 COLOR)
Prop tool	PART.PROP TOOL
FM800 Receiver	RX.FM800
FS-RX2A Receiver	RX.FS-RX2A
DSM2 Receiver	RX.DSM2
TINY X8 Transmitter	TX.TINY X8

## After sale service

1. Provide free reparation service when find the product defect after purchase.
2. Provide pay-needed reparation service when product damage because improper operation.
3. China customers please contact with the after-sales service, overseas client please contact the dealer.

## PNP/RTF Test report ID :

### Flight test

- Transmitter functions properly
- Flying in good condition
- Camera OK
- VTX OK

QC: \_\_\_\_\_

### Package check

- PNP
- RTF
- Frame
- Transmitter
- ID is the same
- All parts of the installation
- Insulating sleeves have been installed manual
- Complete accessories, total \_\_\_\_\_ packages

QC: \_\_\_\_\_