

# ET16

SUMMARY MANUAL

**Beginners should pay particular attention to the following safety precautions! Please read carefully!**

- No fly when user is in poor health condition such as fatigue and drunkenness.
- No fly in bad weather day such as rain, strong wind or at night, etc.
- No fly near high voltage wires, communication base stations, government secret zone or public places where crowds gathered.
- No fly in airports and other places where fly is forbidden.
- Before flying, test the equipment, check whether the transceiver system and the aircraft are normal;
- When flying, make the interface of transmitter in the standby interface in case of the parameters changed by mistake;
- After flying, turn off the receiver primarily before the transmitter turn off to protect people from rotary of engine or motor caused by fail-safe function.

**The sequence of power on and off of transmitter and receiver!**  
**Power on:**  
Firstly turn on the transmitter (ensuring the minimum throttle stick position),Secondly Turn on the receiver  
**Power off:**  
Firstly turn off the receiver, Secondly turn off the transmitter.

- Use guaranteed and special charger to charge the battery; Preserve the battery with special case for safety.
- The electronic product should be dry, use alcohol and special cleaner to clean. Do not force the vulnerable antenna, or it may cause destroy.
- The screen is vulnerable, do not press hard or scrape with sharp things.
- Please take care of the product! No under sunshine or in high temperature, wet or dusty place.

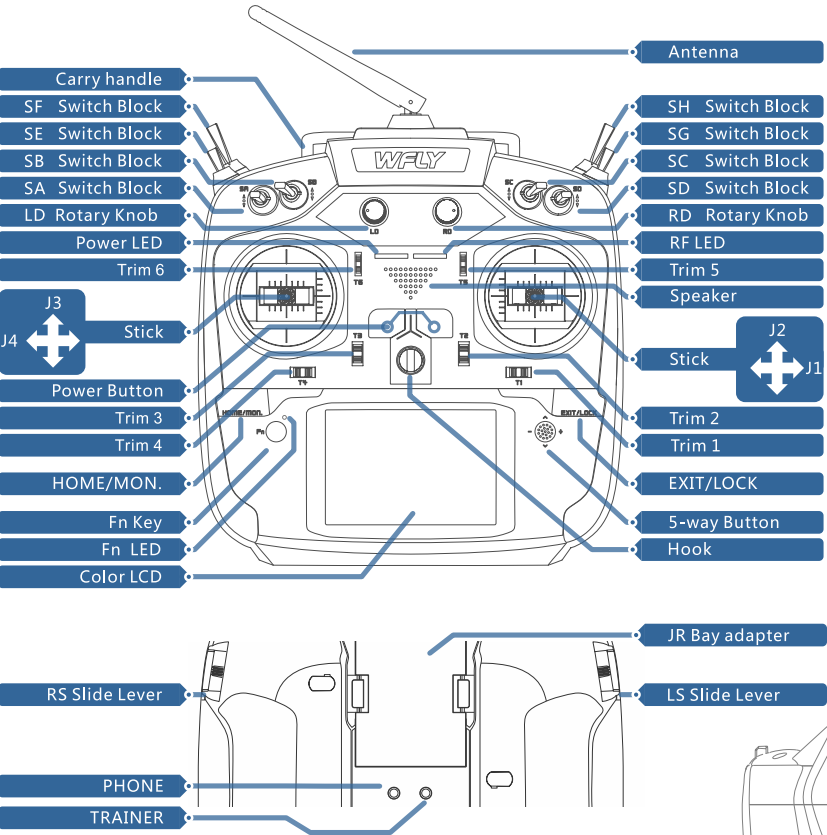
**Charge and attentions:**  
ET16 is with LiFe 1cell-3cells. Charge with others kinds of batteries would damage the transmitter.

**After-sales service**  
Please log in official website <http://www.wfysz.com> for detailed information.  
Or email us at [service@wflysz.com](mailto:service@wflysz.com)

## PARAMETERS

Transmitter	Receiver
Type:ET16	Type:RF209S
Channel:16	Band:2.4GHz
Voltage:3.5V-13V(LiFe 1cell-3cells)	Voltage:3.5V-13V
Current:260-400mA	Current:95mA
Application: Helicopter, Airplane,	Application: Helicopter, Airplane,
Multicopter, Vehicle, boat	multicopter, Vehicle, Ship, Robot.
Resolution: Full Channel 4096	Resolution:4096
Band:2.4GHz (Bidirectional)	PWM:9channels
Storage:30 models	W.BUS: Compatible
Programming: 5 Groups Mixed Control	W.BUS2: Remote sensor input
Language: Chinese, English	Two-way transmission: Support
Upgrading: USB online upgrade	Fail save: Support
Display: 3.5inch touch, 480*320, TFT	Online upgrading: Support
color display	Relay flight: Support
Voice: Support voice broadcast	180/270°servo:Support
Relay flight: Support	Receiver port setting: Support
180/270°Servo: Support	External voltage detection: DC 0~96V
Wireless signal copy: model data	Dimension:47x14x25mm
External RF modules:Support	Weight:12g

## ET16 PARTS NAME AND FUNCTION INTRODUCTION

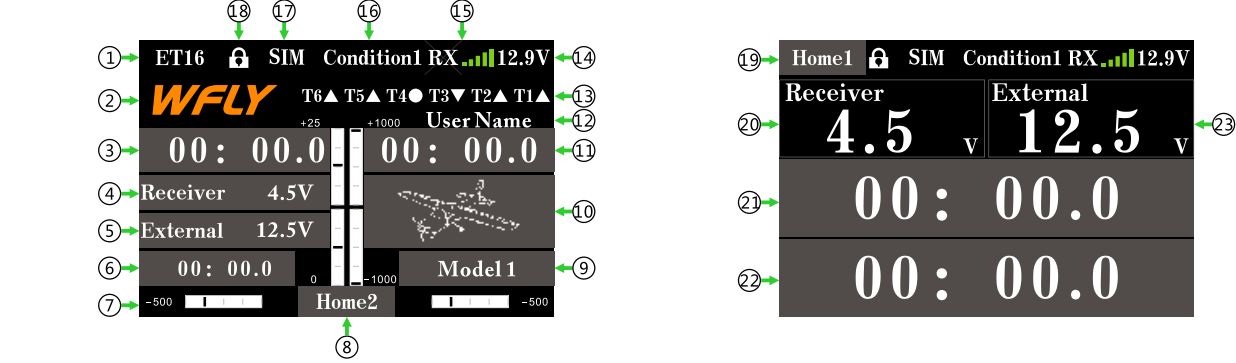


Power LED: Red  
RF LED: Blue  
Power Button: Click only one power key for 3 seconds to Startup & Shutdown; Press 2 power keys at the same time to flash shutdown.  
SA: 3 positions; alternate; Short lever  
SB: 3 positions; alternate; Long lever  
SC: 3 positions; alternate; Long lever  
SD: 3 positions; alternate; Short lever  
SE: 3 positions; alternate; Short lever  
SF: 2 positions; alternate; Long lever  
SG: 3 positions; alternate; Short lever  
SH: 2 positions; momentary; Long lever  
LS/RS: Sticker, (user-defined)  
T1-T6: Trim, (user-defined)

5-way button: Move the cursor button up and down or left and right, middle button for confirmation(Long press to reset)

Fn key: Click to switch for 5-way navigation working mode. Fn status LED lighting-off, 5-way navigation key works for interface operation setting and parameters input when touch screen is out of work. Fn status LED is on, 5-way key works as control switch, click button or trimming.  
JR Bay adapter: Support multi-protocol(Open TX protocol), Blacksheep CRSF module and FrSky R9M module.  
PHONE: Plug in the earphone transmitter speaker, meanwhile earphone output the voice.  
TRAINER: Trainer port.  
HOME/MON.: Home/Monitor key, slightly click home, press and hold monitor.  
EXIT/LOCK: Exit/Lock key, slightly click to exist, press and hold to lock the screen.

## MAIN INTERFACE INTRODUCTION



- Transmitter model
- LOGO, Click to enter main menu
- Timer 1
- Return data(Receiver voltage)
- Return data(External battery)
- Model active time, switch model, press and hold, reset shutdown.
- Trim monitor, display active trimming status(Right side diagram)
- "Home2" key, click to enter Home Interface 2
- Model name: Click to enter model select interface
- Model type: Click to enter current model type interface
- Timer 2
- User name, click into user defined name
- Indicate trim status, display the current trim action
- Transmitter battery voltage
- Receiver signal strength
- Fly mode, current flight mode
- Trainer mode(Trainer/Simulator/Student)
- Lock(Click EXIT/LOCK 2s enter lock status)
- "Home1 interface1", click into main interface
- Return data(Receiver voltage)
- Timer 1
- Timer 2
- Return data(Ext battery voltage)

## RF209S

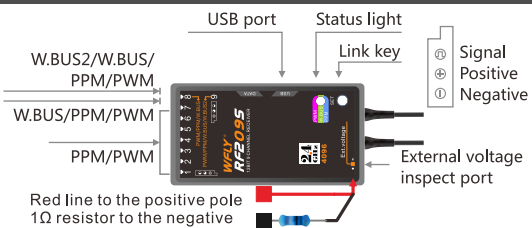
Summary Manual

### OPERATION

Link: Charge the receiver then press and hold 'SET' button for 3 seconds, wait for the link instruction after the orange light flashes slowly.  
Mode select:  
1 Receiver setting way, press the "SET" to charge, then enter into model setting, gently click the "SET" into switcher mode, press and hold "SET" to confirm .  
2 Transmitter setting way , please carry out in [Linkage setting]-[Receiver output] under the normal communication state of transmitter and receiver .After setting, return to the superior menu and save the setting (the receiver light color would be changed).

MODE	LED	Action	Status
WORK	Purple	Never	PWM normal work mode
	Green	Never	W.BUS normal work mode
	Blue	Never	PPM normal work mode
	Red	Never	No signal
	Orange	Slow flash	Low voltage
SET	Purple	Slow flash	Linking
	Green	Slow flash	PWM mode
	Blue	Slow flash	W.BUS mode

### INTERFACE DEFINITION





## INTERFACE AND BUZZER WARNING

### LED indication

LED	STATUS
Power LED light on	Power on
Power LED light off	Power off
Power LED flash	Power on alarm (Low voltage, power on/ off warning)
RF light off	Power off, Student/Simulator mode
RF light on	Normal communication, Trainer or normal mode
RF light flash	Linking status

### Interface and buzzer warnings

#### 1.Low voltage warning

The battery voltage is low when turn on, the buzzer alarm and the screen turn to warning interface, press"yes" , power on as usual; press "no",power off.  
The power is low when using, the buzzer alarms, the voltage value flash on upper right corner (transmitter power low) or on lower left corner (receiver or external voltage is low) of the screen.

#### 2.Throttle stick position alarm when power on

Warning interface pops up,press "ok" or put the throttle to the lowest position, then the radio is normal boot(Boot warning can be set in "System setting"-"Warning")

#### 3.Interface of power off alarm

When the telemetry works, the receiver will detect whether it's communicating when the transmitter is turned off, and the communication will pop up a warning interface to be confirmed to shut down.

#### 4.Linkng

Once finished linking,the buzzer alarms once.When linking times out,the buzzer alarms once and linking status exits automatically.

#### 5.Warning of trim

When trimming at the midpoint or endpoint, there will be voice prompt.

## LINK

When Linking, do not connect the power equipment or dismantle the propeller. Caution!

#### Setting method:

- 1.Charge the receiver , press and hold "SET" key for 3 second, the orange light flash.
- 2.For transmitter, press "start" button to link: WFLY →[Linkage setting] → [Link](Internal RF)→ press"start"
- 3.When successfully linking, the RF light of transmitter is on, the green light of receiver is on (W.BUS mode), or the blue light is on (PPM mode),or the purple light is on (PWM mode).

#### Cautions:

- 1.The distance between transmitter and receiver must be near (less than 1 meter).
- 2.Linkng cannot be operated when transmitter is in Simulator, Student mode (System Setting→Trainer);
- 3.There is no other WFLY 2.4 GHz systems linking nearby.
- 4.When linking, press 'cancel' or return button to quit if necessary.
- 5.Connection and validation must be done after linking.
- 6.Only when the telemetry works during linking status, can the telemetry information be obtained, and shutdown protection is enabled at the same time.

**Validation:** After linking, the server can synchronously reacts follow the order.

**Mode:** The default is MODE A

PORT	CHANNEL DEFINED	
	MODE A	MODE B
1	1	7
2	2	8
3	3	3
4	4	9
5	5	10
6	6	11
7	7	12
8	W.BUS	W.BUS
9	W.BUS2	W.BUS2

## FAIL-SAFE

#### The importance of Fail-safe:

Reduce the rate of body injury□ UAV crash, lost or explosion when the aircraft lost control.

**Advice: Before each debugging or preparation flying, in order to avoid very dangerous conditions such as falling when the throttle is fully open, the fail safe data should be set before other operations.**  
Set fail-safe data firstly before calibration or flight .

#### Steps:

- 1.[Linkage setting ]→ [Fail safe], to enter the F/S interface.
- 2.Set mode:  
HOLD: Hold mode, the receiver outputs the F/S value after fail safe(hold action)  
F/S, receiver outputs the set value after fail safe (preset action)  
OFF: Shut down the current channel output (only for some special models or some flight-control panel detection ports)
- 3.Set fail-safe value: F/S value can only be set under F/S mode, click numeric frame for current channel value.

#### Attention:

For safety, you can refer to following suggestion or consult after-sales service.

#### The parameter suggested

- 1.For helicopter, throttle set to lowest value, other channels set as smooth flight mode
- 2.For airplane/glider,throttle set to lowest or idle down, other channels set as smooth or hovering, because airplane/glider can slip down without power
- 3.For multicopter,please refer to FC(flight Control) manual.  
(Only for suggestion, other settings are based on actual situation)

## MODEL SELECT

#### Method:

[General menu]→[Model type]

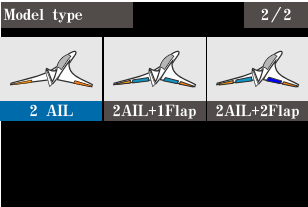
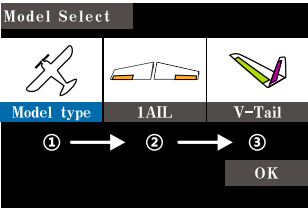
\*Airplane,glider,wings selection of delta wing is in page 2

#### Save:

Switch the model, set the "wing type" and "tail type", etc. The "OK" button performs the save operation and the interface returns to the standby interface. Current (Standby Home Screen) model type has changed to the modified model picture.

#### Attention:

Note that when the "model type" is replaced (all data of the current model will be cleared!), the model data is reset to the factory configuration of the new model. Therefore, you must confirm that you do not need these data, or use the [Model select] function to "copy" the backup of the model data, and then do the replacement operation.  
Same as above, such as "Swash", "wing type" and "tail type" operation, the corresponding operation will clear and change the current model data to the default parameter of the newly selected type, so it is necessary to reset all model features of [ Model menu ].



## STICK MODE

Provides 4 operating modes, customized operating mode at the [Function] additionally, custom operating mode:You need to modify the definition in [Function]. After the modification, the [Stick mode] interface mode changes to "User defined".  
([Function] 1-4 channel stick settings)

#### Setting method:

WFLY → [System setting] →[Stick mode]

#### Save:

Select (1, 2, 3, 4) mode, there will be a safety prompt for each operation, select "Yes" to save directly.

**Note:**Changing the stick mode involves setting the contents of [Function] in [General menu].



**FCC Radiation Exposure Statement:**

This device meets the government's requirements for exposure to radio waves. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons regardless of age or health. The SAR limit of USA (FCC) is 1.6 W/kg averaged. Device types: Model remote control (FCC ID: TZV-ET16S) has also been tested against this SAR limit. SAR information on this and other pad can be viewed on - line at <http://www.fcc.gov/oet/ea/fccid/>. Please use the device FCC ID number for search. This device was tested simulation typical 0mm to body. To maintain compliance with FCC RF exposure requirements, use accessories should maintain a separation distance between the user's bodies mentioned above, use accessories should not contain metallic components in its assembly, the use of accessories that do not satisfy these requirements may not comply with FCC RF exposure requirements, and should be avoided.

**FCC Warning**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE 1: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.