

SCORPION T50

LET'S SEE DIFFERENCE WORLD

Instruction Manual

Disclaimer

Thank you for purchasing our products. This is the special control item, Wrong operations will lead to product damage, people hurt or even death, User must bear corresponding criminal responsibility. This product is not suitable for minors under 18 years old. For more better use of this equipment and ensure your safety, Please read the manual carefully before operate it, Or consult with the local distributors or manufacturers.

Please keep the electrical components away from children;
Ensure to keep the aircraft away from people and dangerous goods, Suggest to operate it in special airfield;

Please don't operate it under the situation of drinking, tiring or out of spirits;

Please operate it according to the product manual strictly;

Please make sure the connection of power system and other functional modules are correct, Otherwise the equipment will be damaged;

Please close the power source or take out the propeller before controller channel calibrating, firmware updating and parameter setting, Which can avoid the motor to rotate in high speed ;

Please don't fly it in poor environment;

Please don't change the structure of aircraft, You will take the consequences If changed ;

Exemption clause

- 1) This is the special control product, Users will take full responsibility for all acts which caused by directly or indirectly.
- 2) The manufacturer will not bear any responsibility for all results caused by this product.
- 3) Users must bear legal liability If destroy the public order or public safety when use it.
- 4) This photo is just for your reference, Please subject to the final products.
- 5) We will not offer any technical support and security guarantee for below situations:
- 6) To get the products from non-formal agent or other non-formal channels;
- 7) To modify, adjust and change components of product without authorization ;
- 8) Warranty card, serial number or flight data is lost;
- 9) As the wrong operation or natural disaster or other irresistible factors lead to personal injury and property losses.

Reading Cue

JTT provide the teaching video and below documents of T50 for users:

- 1) Disclaimer
- 2) T50 Quick start guides
- 3) T50 manual
- 4) Packaging List
- 5) Safety operating guides
- 6) Intelligent flight battery safety operating guides

Suggest to watch the teaching video and Disclaimer at first, and then, to read the T50 quick start guides . For more information, Please read the T50 manual.

Product description


3.1 Brief introduction T50

3.2 Feature highlights

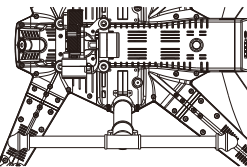
Except the perfect fuselage, It also has super strong structure and stable power system. T50 is equipped with high accuracy 3-axis gimbal to capture the stable and clear image in the high speed flying. Moreover, the gimbal use the design of quick-detachable, this creative structure let you carry become more convenient and assemble become easier, Simple and effective landing gear make your aerial photograph without dead corner. At the same time, T50 add the functions of One-key to hover, Auto return voyage, Real-time data, It brings more fun for your life.

Packaging List

Item	Description	Quantity	Remark
1	fuselage	1	
2	Retractable landing gear	1	
3	Front arms	2	Include propeller
4	Back arms	2	Include propeller
5	Remote control	1	
6	FPV	1	
7	battery	1	
8	Charger		
9	3 axis gimbal		
10	Antenna		



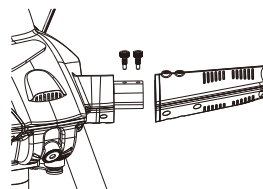
Product assembly



Install landing gear

The gear consists of steering gear and brace, steering gear has been installed on the fuselage before it leaves factory, the customer need to install the brace manually as below:

- a) Put brace into the steering gear on right screw holes.
- b) Tighten the screws(two braces and four screws)

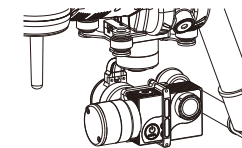


Install arms

- a) Loose the screws of the arms.
- b) Install arms in right order(check the numbers on arms)
- c) Tighten the screw to fix the arms.

Notice

- 1) Arms are fixed to frame by screws. Ensure the screws are installed well.
- 2) Ensure arms and frame are in right installation. Be careful of your hands to install the shape propeller.
- 3) Check and ensure propeller and motor are in good installation before fly.
- 4) Check the propeller before fly, if it has aging or damaged, please replace it first and then to fly.
- 5) Please don't close to propeller when the motor starts
- 6) Please choose and use JTT brand propellers in order to get the best flying performance.

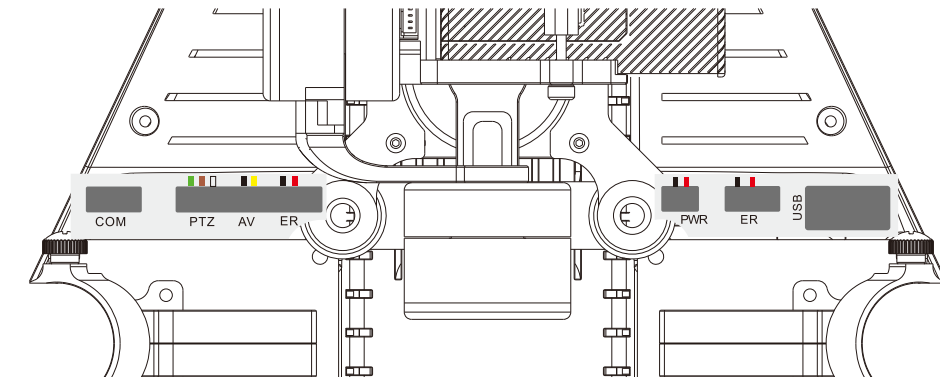


Install the gimbal

- a) Install the gimbal on the bottom of drone and be sure the arrow towards the nose.
- b) Connect gimbal cable to the place shown on .

Notice

There's no camera in T50 standard accessories. If don't use the camera, please unplug the gimbal power cable; Otherwise, the gimbal will keep jitter and even cause short-circuit damage of gimbal



- 1) PTZ: gimbal connector. The color of gimbal's cable should match to terminal's color(white is an extension port and it's no need to line)
- 2) AV: Connect camera's AV cable to gimbal and then link to the drone. The live video can be transmitted.
- 3) ER: connector for landing gear, choose the connector with the same color to landing gear and then it can be lifted up/down.
- 4) PWR : power connector for gimbal. Make sure the cable are connected to the position with same color and then it can offer power to gimbal.
- 5) USB : adjust flight control's parameters

Batteries

how to charge

- 1) Connect battery to professional charger when battery power is on.
- 2) Short-pressing power button on battery is to check battery to see if it needs charging, battery is not actually not activated; (no output voltage from Xt60 output)
- 3) Long press battery power button for 3 seconds to active battery to be charged.

how to use

As shown, install battery properly, battery is installed well once hear clear , clip sound. Battery condition cannot be available or Flight safety condition will be sabotaged on improper battery installation.

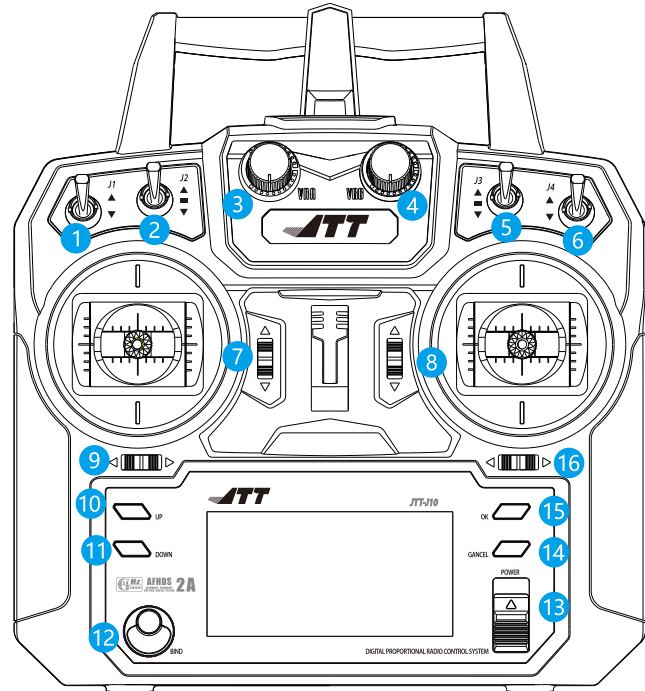
Notes on using battery

- 1) Turn off battery power before uninstalling battery after every flight.
- 2) Uninstall battery from UAV and store properly after every flight.
- 3) Charging the battery in indoor temperature is advisable.
- 4) Replacing battery after charging over 300 times is advisable.
- 5) Best store voltage is 3.8v, total 15.2v.
- 6) Must be cautioned when using battery, please refer to battery user manual and notes.
- 7) Changing battery is advisable if battery swelled or damaged.,
- 8) Short-pressing power button on battery is to check battery to see if it needs charging, battery is not actually not activated; (no output voltage from Xt60 output)
- 9) Long press battery power button for 3 seconds to active battery to be charged.

(FAQ)

1. What to do if the drone is out of sight and the image transmission is disconnected?
Switch on the return home function. Make sure the reversal route is clean without any obstacles, and the method of retrieving control authority is well noted.
2. The drone cannot hover or fly straightly but drift around.
The case means there is something wrong with the compass in the drone, user needs to re-collate the compass.
3. The drone performs a convulsion.
Check out the rotor bases and propellers if they are balanced.
4. The drone cannot keep flying at high attitudes but descend slowly, and the throttle rod is insensitive?
Check the drone if it is overloaded, while the battery if it is insufficient.

Remote controller



- 1

Camera switch
- 2

Fly mode switch
- 3

Button to adjust gimbal pitch
- 4

Switch of gimbal direction
- 5

Gimbal mode switch
- 6

Landing gear UP/down switch
- 7

Throttle tuning button
- 8

Pitch tuning key
- 9

Course control button
- 10

UP key
- 11

Down Key
- 12

Code matching key
- 13

Power switch
- 14

Cancel(short hold)/Store(Long hold)
- 15

Confirm(short hold)/Menu (Long hold)
- 16

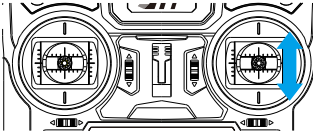
Roll tuning key



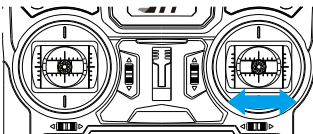
Use throttle to control Up/down
Push up, aircraft ascent
Pull down, aircraft descent
the throttle in the middle, the aircraft maintain the same height(fixed height automatically) Push up the throttle to the middle place, the aircraft can take off. (Please push the throttle slowly, in case of rapid rise suddenly)



Use Yaw lever to control the course
Joystick to left,aircraft turncounterclockwise ;
Joystick to right,aircraft turn clockwise;
Keep in the middle,speed of rotation angle is zero.Move Yaw lever larger, the greater speed of rotation angle.



Pitch bar to control aircraft forward/backward
Push up, aircraft go forward.
Pull down,aircraft go backward.
Joystick in the middle, aircraft keep balance.
Move roll-bar to adjust left/right tile angle of aircraft.The larger of roll-bar moves, the greater tilt angle and the faster of flight speed



Roll-bar to control the aircraft left/right
Joystick to left, aircraft turn left.
Joystick to right, aircraft turn right.
Joystick in the middle, aircraft keep balance.
The larger of roll-bar moves, the greater tilt angle and the faster of flight speed.

- 1

J1 Flight mode
▲ Manual mode
▼ One key auto return
- 2

J2 flight mode
▲ Manual mode
■ Intelligent Point of interest
▼ GPS mode(hover)
- 3

VRA control pitch angle of gimbal
- 4

VRB control yaw angle of gimbal
- 5

J3 live video switch
▲ Video from built-in camera
■ NC (Reserved function)
▼ Video from camera on gimbal
- 6

J4 Gear up/down
▲ Gear down
▼ Gear up

Install four AA batteries properly before use RC. Switch J1-J4 to the most upper gear, keep left RC pole at lowest position, switch on power to use RC. Bleeping sound after switch on means RC is well functioning.

Preparation before flight

Flight status lights

Light color	light status	working status
RED	Two flashes (not unlocked/unlocked)	bad GPS signal
RED	slow flash (not unlocked)	Stanby/GPS satellite-search finished
RED	Three flashes (unlock)	first grade voltage alarm
RED	off (unlock)	well functioning
RED	fast flash (unlock)	low battery alarm
RED	stay on	compass calibrating

Flight condition requirements

1. Take flight training or lesson before using.(i.e, playing flight emulation, or guided by professional)
2. DO NOT use under bad weather, such as windy(Level 4 or above), rainy or misty days.
3. Choose wide open place as a flight area without high-building which may affect the compass with steel bars contained.
4. Keep the route away from obstacles, crowds, high voltage cables, bushes, water surface.
5. DO NOT fly in complex electromagnetism areas(i.e.base stations or launching towers) in case of causing any disorder of remote controller.

Flying

unlock the rotors and take off

Switch on the manual stabilization mode and keep the drone fixed and horizontal with the ground;then push and hold the control rods(shown in the figure) for 3 seconds to unlock the rotors, make a smooth take-off by pushing the rod up forward after the rolling of the rotors.

Flight modes

1. Manual stabilization augmentation mode : Highly accurate barometer and GPS do not work except Gyro stabilization system under this mode, the flight controller makes the drone fly steadily.
2. Smart surrounding mode : Gyro stabilization system, highly accurate barometer and GPS work together under this mode. The drone do not start surrounding but hovering after entering this mode. The drone surrounds from the left hand once pushing the rod to the left, vice versa, the same if from the right. The radius gets smaller once pushing the rod up forward, vice versa, it gets bigger if back forward. The drone surrounds the center of a circle which the nose of drone faces with the default radius(10meters)
3. GPS mode: Gyro stabilization system, highly accurate barometer and GPS work together under this mode. 6 or above satellites must be searched out before flying; the drone is hovering steadily by the flight controller when the control rods set in the medium; meanwhile, pushing rods can alter the flying attitude and horizontal positions.
- 4.One-key to return home: Gyro stabilization system, highly accurate barometer and GPS work together under this mode. 6 or above satellites must be searched out before flying; the drone will record the home point automatically; this function makes the drone rise to 20 meters high and fly over to the home point (remote control function is not available in this process); the drone will land slowly and lock up; if user feel like exiting this mode in the process, directly switch to the GPS mode which the drone will be under.

Landing and locking

Push the throttle rod down forward and let the drone land on clearing ground slowly if in need. Landing will be finished after pushing and holding the throttle rod down forward for 3-5 seconds, the rotors will stop working.

Failsafe mode

The drone may lose connection and enter the failsafe mode if the below situations occur:
1. The remote controller is off.
2. Flight distance is out of the connection range.
3. Some obstacle is blocking in the connection between the remote controller and the drone.
4. Interference signal happens to the remote controller. The drone will be piloted by the flight controller and return to the home point automatically when the drone is under failsafe mode.

Retrieve control authority

User needs to switch on the mode bar (manual stabilization - GPS) for one time to exit the failsafe mode after recovering the connection signal. The remote controller can be used again afterwards.

changes or modifications not expressly approved by the party responsible for compliance could void the user' s authority to operate the equipment.

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.

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