

DRONEPANG

F2 ST

USER MANUAL



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1. CAUTION

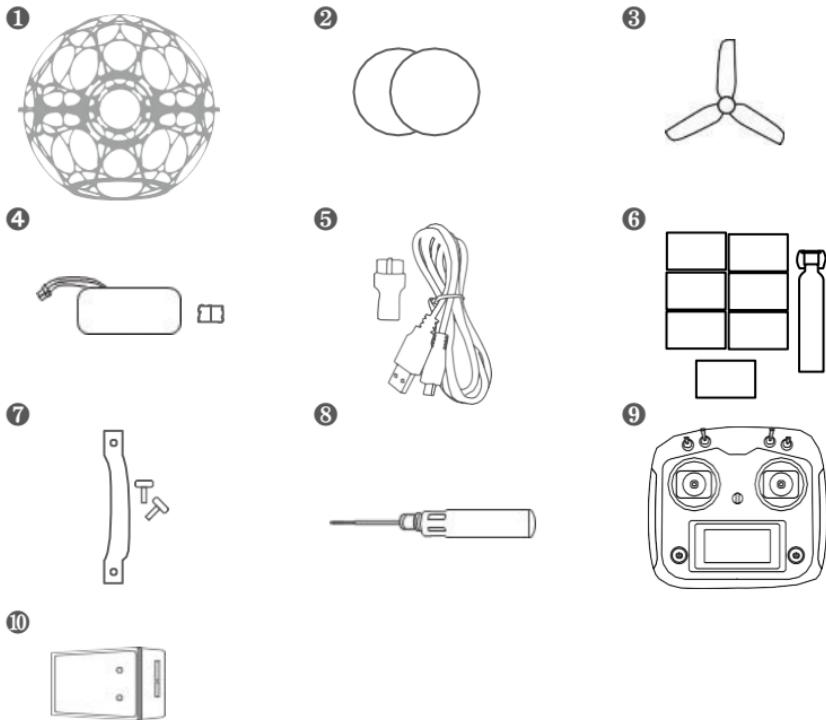
- ※ Do not place your hands inside the shell until the propeller has stopped completely.
- ※ Don't fly towards people and animals when you control drones.
- ※ Long hair can be dangerous because it gets caught in a rotating propeller. Wear or tie a hat during the flight.
- ※ When removing the mounted shell, first remove the Dronepang battery or remove the propeller.
- ※ When replacing a drone battery, keep the controls safe to prevent accidental operation by others.
- ※ Dronepang is designed to be suitable for indoor flight.
 - The drone cannot be controlled outside the control range of the controller signal.
 - Be careful not to deviate from the field of view during operation.
 - Wind-affected outdoor flights are the cause of dysfunction. It's better to fly indoors.

WARNING

- ※ In altitude hold flight modes, strong shocks are a cause of weakening the intrinsic function.
- Repeated strong shocks can lead to rapid climbs or uncontrollable flights.
 - Repeated strong shocks can lead to rapid climbs or uncontrollable flights.
 - Enter free flight mode or recalibrate the IMU.
 - When charging the battery, stop using the inflated battery

- ※ The 'Dronepang F2 ST' flight control panel is not waterproof.
- ※ Serious shocks can damage drone structures.
- ※ In altitude hold flight mode, high-intensity shocks can cause errors in altitude hold functions, resulting in high jumps and loss of control.
- ※ Re-calibrate the IMU after entering drone altitude hold mode or landing the drone.
- ※ The 'Dronepang F2ST' can only be used for 3S (11.1V) lithium batteries.

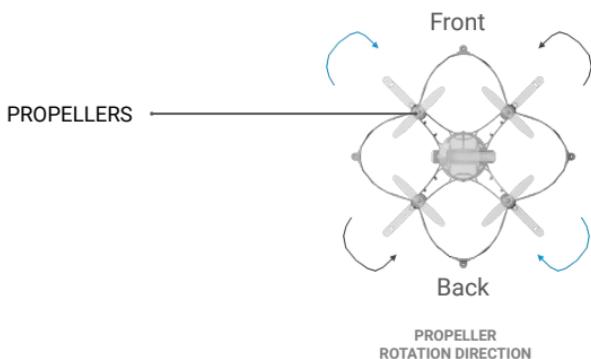
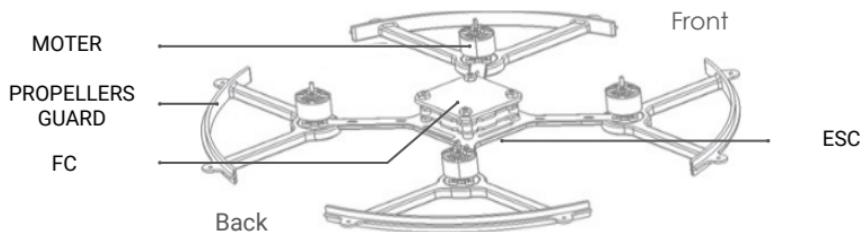
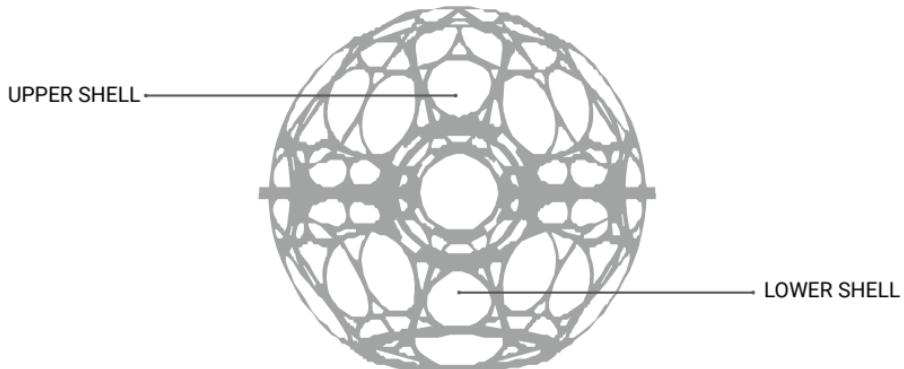
2. COMPONENTS



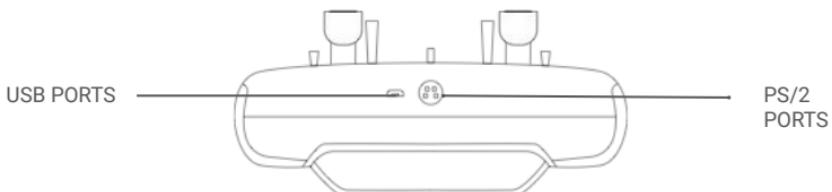
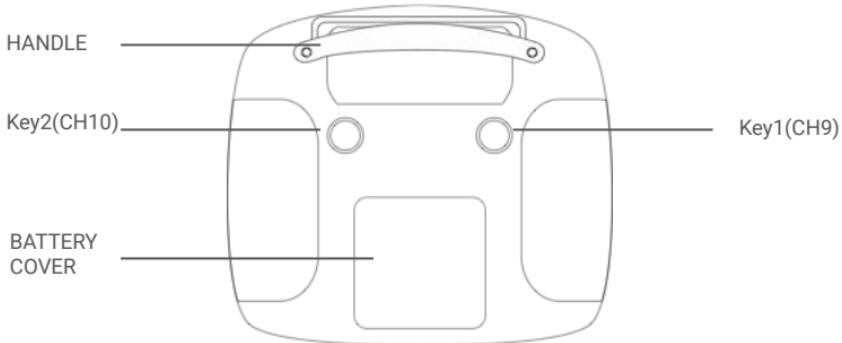
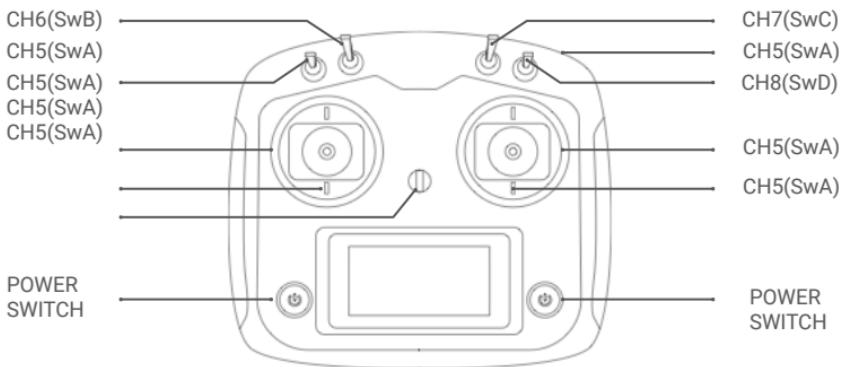
① DRONEPANG F2 STANDARD	② CIRCULAR BADGE x2	③ ROPELLER(CW,CCW) x2 SET
④ BATTERY	⑤ CABLES, CONNECTOR	⑥ VELCRO HOOK x1 LOOP x6 LONG x1
⑦ THROTTLE BRACKET x1, SCREW	⑧ SCREWDRIVER x1	⑨ CONTROLLER x1
⑩ DRIVER x1		

3. INFORMATION & INSTRUCTIONS

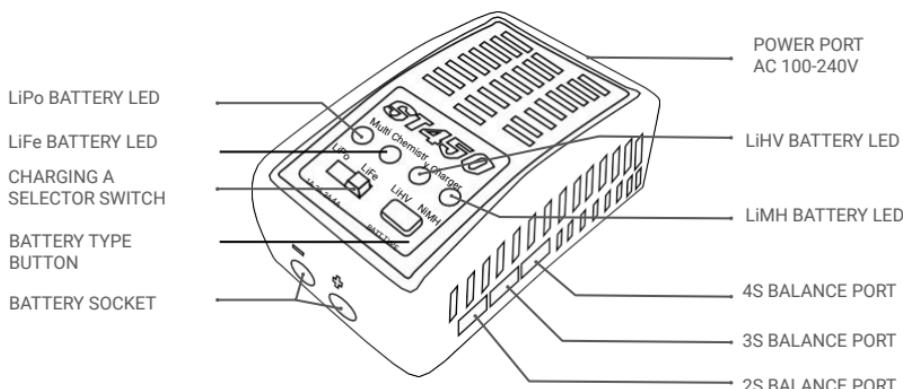
STEP. 01 MAIN FRAME



STEP. 02 CONTROLLER



STEP.03 CHARGER [ST450]



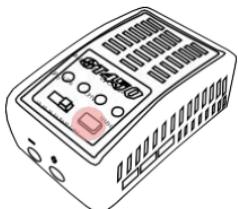
PRODUCT INFORMATION

It is a ST450 100-240V AC balance charger used in Dronepang F2ST. It can charge 2-4 cell LiPo, LiFe, and LiHV batteries in balance mode. It can charge up to 4A with a 500W power supply, and the user can easily select and charge depending on the capacity of the battery among the four A/2A/3A/4A amps.

PRODUCT INFORMATION

The AC power cord can be used to connect directly to the AC outlet (100-240V).

1. Please connect the charger and power cord.
2. Plug the power cord into the wall outlet. All LEDs will flash for approximately 1 second, and the green and red LEDs will alternately light on the battery type ready to charge.
3. Press the battery type button to set it to fit the battery you want to charge.



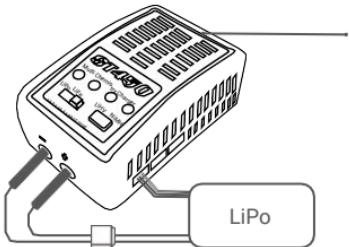
Select the type of battery you want to charge

4. Use the left slider to set the voltage to charge. Voltage can be set from 1A (1000mA) to 4A (4000mA).

The recommended charging speed is 1C. (Battery Capacity = Charging Voltage)
1C is Total Capacity = Charging Voltage.

5. Recharge LiPo/LiFe/LiHV batteries

Plug the charging cable into the front battery socket of the charger to match the color and connect the battery. Attach the battery balance jack to the port on the right side of the charger to align the battery cell to be charged.



Charging cable and battery jack

| Caution |

This section describes how to charge the battery balance using the ST450 charger. If the connection is not properly made or charging is different from the description, the charger may be overloaded.

Blinking green and red alternately	Ready to charge
Red LED	Charge 25%
Red blinking light	Charge 25%~50%
Yellow LED	Charge 50%~70%
Green blinking light	Charge 70%~99%
Green LED	Full

When the battery is fully charged, the LED on the charger turns green.

After disassembling the battery into the charger, the LED on the charger flashes green to allow you to charge another battery.

6. Recharge NiMH Battery

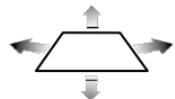
Combine the battery with the charging cable and connect it to the socket on the front of the charger by color.

Press the "BATT TYPE" button for 2 seconds to start charging. Charges when the LED indicator is illuminated.

When the battery is fully charged, the charge indicator remains green.

|CAUTION| In LiMH mode, only LiMH batteries must be charged. Charging other types of batteries can cause fire, injury and property damage.

STEP. 04 SAFETY FOR FLY



+



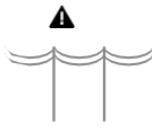
+



Only fly in an open space

Keep within line of sight

Fly at a height below 80m



When flying ensure that the drone is kept away from other people, trees, electric wires, buildings, airports or signal transmitting tower etc.



Ensure that the weather conditions are suitable for flying. Do not fly the drone during snow, rain, fog, thunder or in windy conditions.

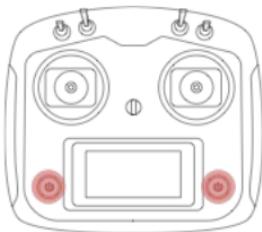


DO NOT touch the rotating blade during operation. It can cause injury or damage to property.

No-fly zone must be observed. It is the user's responsibility to ensure that drones operate legally and safely.

CAUTION | Flights under unstable weather conditions should be prohibited under any circumstances when flying outdoors. This is the most basic user instruction and be sure to read this before flying to avoid possible accidents.

STEP. 05 CONTROLLER ON, OFF



CONTROLLER ON, OFF

: Press and hold the two buttons until the power is turned on.

[CAUTION]

If the controller is switched off during flight or automatically switched off due to lack of battery on the controller, the 'Dronepang F2 ST' may be out of control. Use in a fully charged state to avoid running out of battery on the controller.

If the battery in Dronepang is lower than the warning voltage (low power), the controller will emit a warning tone and the 'Dronepang F2 ST' tail light will flash.

At the end of the flight, disconnect the 'Dronepang F2 ST' battery, place all toggle switches on top and turn off the controls.

If the power does not turn off or on, make sure that all toggle switches are located at the top.

STEP. 06 STANDBY & IMU RESET (before flight)



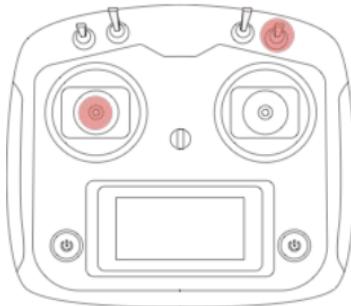
1. After powering on the controller, connect the battery to the 'Dronepang F2 ST' and hold it horizontally with the power on, then lower the left and right sides of the controller simultaneously to the lower right corner for more than 3 seconds.

2. The Dronepang tail light flashes slowly.
3. When the tail light flashes, place the stick in place.
4. Hold still for a few seconds to complete the calibration without flashing the tail light.

* It is recommended that calibration be performed before every take-off.

* Do not touch the drone during calibration.

STEP. 07 MOTER START(Left throttle/Mode2)



OFF

ON

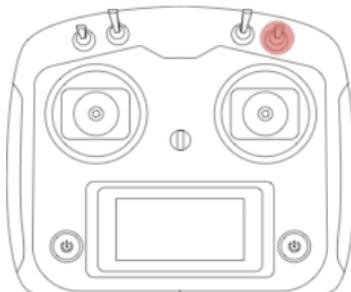
There are two ways to start the motor.

1) Move the left throttle stick to the lowest position as shown in Figure 1 and lower the toggle key [CH8 (SwD)] as shown in Figure 2 to start the motor immediately.

2) Lowering the toggle key [CH8 (SwD)] as shown in Figure 2 and moving the left throttle stick down as shown in Figure 1 will immediately start the motor.

(Direct take-off is not recommended in altitude hold mode.)

STEP. 08 MOTOR STOP



OFF

ON

The motor can be stopped using toggle key [CH8(SwD)] as indicated. Stop the motor in the event of a dangerous situation as it can be stopped under any circumstances.

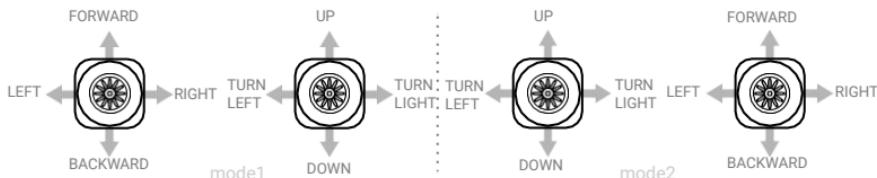
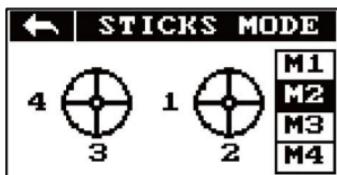
* If the drone is disconnected, wait approximately 5 seconds before landing slowly on the ground.

* After landing, wait for the 4 motors to stop.

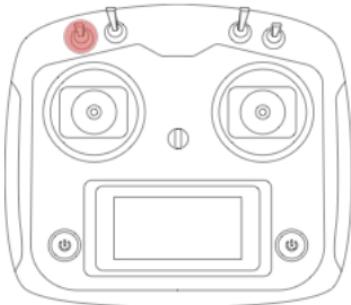
STEP. 09 CONTROLLER MODES

To set modes 1 and 2

On the controller screen, press  button, press SYS, and select Sticks mode to set M1 or M2. When you need Mode 1(Right throttle) then press M1 or when you need Mode 2(Left throttle) then press M2.(Default : Mode 2)



STEP. 10 ALTITUDE HOLD MODE



The mode can be set using toggle key [CH5(SwA)].



ON – altitude hold mode

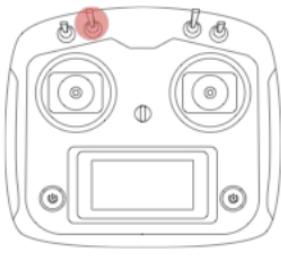


OFF – free mode

If unnecessary, it is recommended that the altitude hold mode is switched off(free mode) after takeoff.

In the case of Games or Races, it is recommended to fly in free mode. In altitude hold mode, strong vertical collisions of the sensor pose a risk of abnormal operation, such as elevation. Change to free mode.

STEP. 11 HEADLESS MODE



*The headless mode can be turned on and off using the toggle key [CH6(SwB)].

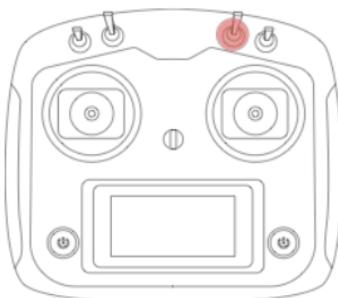


1. Position the drone so that the pilot and the drone face the same direction.
(Make sure that the back LED of the drone looks at the pilot and release it after the binding is complete.)
2. Headless mode ON
3. The drone can be operated based on the first set direction, even if the direction of the drone is reversed during the flight.
4. It is not possible to reset the headless mode during flight. If the drone does not go in the desired direction, turn the headless mode off.

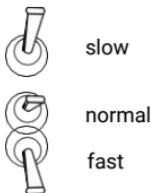
|Caution| Headless mode cannot be maintained for a long time.

If it does not operate normally, land, reset and fly after releasing headless mode.

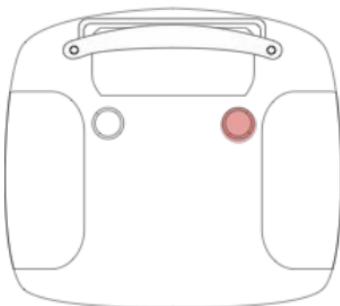
STEP. 12 SPEED CONTROL



The flight speed can be adjusted using the toggle key [CH7(SwC)] of the controller.



STEP. 13 ONE BUTTON TAKE OFF & LANDING

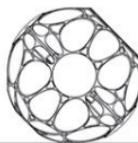
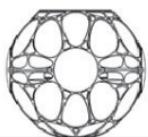


After starting in altitude hold mode, release throttle and short press toggle key1 (CH9) on the back to take off. Short press toggle key1 (CH9) again to landing. After landing, the motor can be stopped using toggle key [CH8 (SwD)].

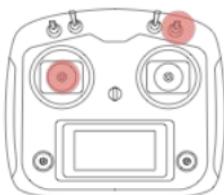
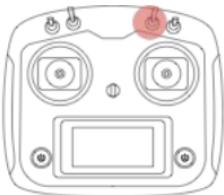
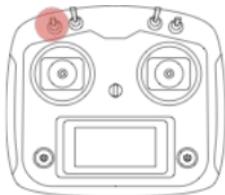
* This function only works in altitude hold mode.

* Automatically take off in about 2 seconds for safety.

STEP. 14 BACK TO FLY



If 'Dronepang F2 ST' is flipped, refer to the following methods:



A. Turn off the Altitude hold mode. B. Set the speed to step 3.

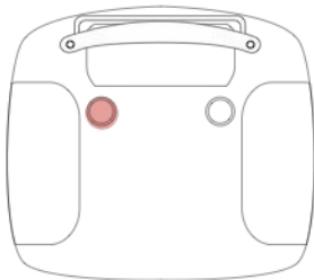
C. Motor On



D. With a certain amount of throttle held, select the direction with the right stick(in Mode2) and try to roll the drone.

* **Caution!!>** Pilot practice is required. Excessive throttle volume can cause motor failure.

STEP. 15 CHANGE LED COLOR



With the motor stationary, press toggle key 2 (CH10) to change the color of the tail lamp. The order is green > red > blue > yellow > purple > sky blue.

* Toggle Key 2 does not work at startup.

4. FAQ

• Controls won't turn on.	If the battery is not fitted correctly, the controller will not power up.	Ensure correct installation, or retry with a new battery, according to the +, - marked on the battery mount.
	Poor switch power button	Please check and submit an A/S.
	If the controller is not turned on	Position the power button to ON.
	Toggle switch down	Up all toggle switches.
• Dronepang doesn't start	Check the battery connection.	Check the connection status and connect in the correct direction.
	Make sure that the distance from the controls is within the limits.	Fly within a radius of 200M. It is recommended to fly in-view in an indoor environment that is not blocked.
	Make sure that the controls are not connected (binded).	Check the controls and try to reconnect them by checking the control connection instructions in the manual.

Motor start and IMU calibration is not possible	Check if it is in altitude hold mode	Turn on the altitude hold mode.
	Check the condition of the controller	Turn on the controller and bind them again.
Elevation not maintained	altimeter failure	A/S reception
	Temporary operation failure due to excessive impact	IMU reset
	Check if it is in altitude hold mode	Turn on the altitude hold mode.
It's soaring in altitude hold mode	Check the propeller for damage.	Check and replace.
	If the Dronepang is shaken and shocked too much,	Please power cycle and try again.
The motor does not rotate.	Replace the motor.	A/S reception
Dronepang flight performance is strange.	Screws loose screws are loose	Tighten it so that it doesn't shake
	Broken center bracket	Check and replace.
	Severe damage to the propeller or incorrectly mounted	Check and replace.
Each switch is inoperative.	Poor contact status on the switch	A/S reception
Dronepang can't go up	Drone or Controller Low battery	Battery replacement
The motor won't stop	Pull the throttle stick to the end	Refer to how to stop the motor
	Turn off the motor in altitude hold mode	Switch to altitude hold mode.

5. SPECIFICATIONS & INFORMATION

Size 230*230*200 (mm)

Weight ≤ 140g

MAX take off ≤ 210g (with battery)

MAX F/Time ≥6min(hovering)

Flight speed 3 speed step modes

Angle Limit 30°

Cutoff angle 90°

Distance Limit distance : 200m / height : 30m

Battery 850mAh 3S

BL Motor 1106 4200KV

Propellers 3028-3p

Elevation mode ≥6min(hovering)

Shell modified plastics

KC R-R-cdr-DF2ST
MSIP-CRM-cdr-STTX10S

HESEL

<http://www.helsel.co.kr>

<http://www.helselgroup.com>

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