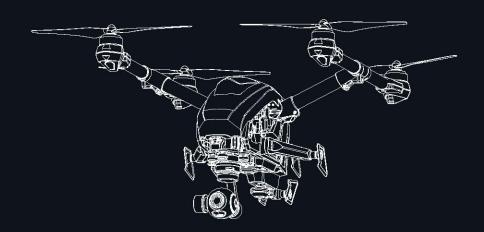




# Match with GCS Ground Station Software Quick Start Guide and Systems Flowchart





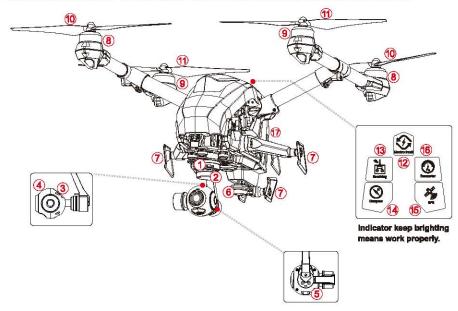
# **Contents**

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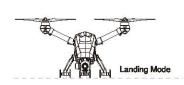
# 1.0 Preparation before flying

### 1.1 Get to know your VOYAGER 3

- · Electronic components adopting modular design, easy to connect and install.
- A new generation flight control system built-in, provide stable flight performance.
- Insert 5.8G image transmit system and OSD system, can get image and OSD information easily.
- · Adopting indicator light on GPS, Compass, barometer and other parts, observation more intuitive.







- 1. Gimbal lock
- 2. Replaceable integrated camera gimbal
- 3. Camera Micro-SD card slot
- 4. Indicator
- 5. Camera Data port
- 6. TX Mushroom antenna
- 7. Skid landing
- Counterclockwise motor
   (dextrogyrate thread is clockwise)
- Clockwise motor
   (levogyrate thread is counterclockwise)

- 10. Counterclockwise propeller
- 11. Clockwise propeller
- 12. Electrocircuit detecting light
- 13. Receiving detecting light
- 14. Compass detecting light
- 15. GPS detecting light
- 16. Barometer detecting light
- 17. Smart aircraft battery

# **VOYAGER 3-**

### 1.2 Download and software installation

Devices that support Ground Station: Android and Apple phone / tablet

### Android phone requirements:

- (1) The Android version should be 4.0 or above, the screen resolution should be 480 x 800 pixels or above.
- (2) Google play services, google play store and TTS software should be preinstalled in the phone.

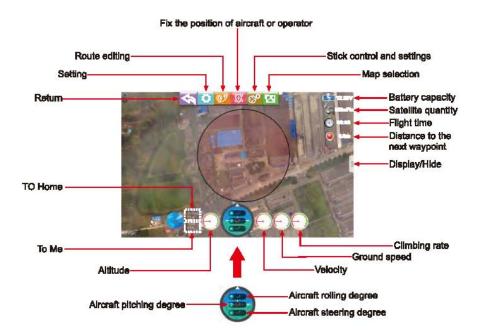
### Download and software installation

- Download the "GCS Ground Station" software from official Walkers website(www.walkers.com) / Google for Android version 4.0 above.
- (2) Apple IOS system, download the "GCS Ground Station" software from APP Store.



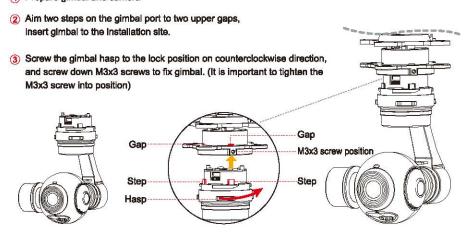
Suggestion: set the phone to flight mode when you are using the GCS software to control the flight.

### 1.3 Get to know GCS ground station software interface



### 1.4 Assemble the VOYAGER 3

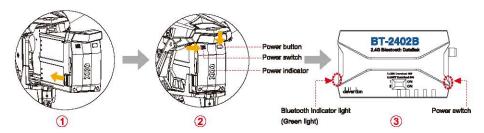
- Assemble gimbal and camera
- Prepare gimbal and camera



### Skid landing reset

To save shipping space, the factory default of the drone skid landing is folded, please power on to reset before using, and do not use force to filp.

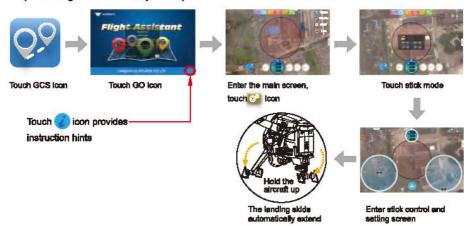
- 1 Put the smart aircraft battery into the aircraft.
- ② Hold the aircraft up, turn the power switch to "ON", then press the power button for 3-5 seconds until the green power indicator lights up.
- 3 Turn on the power switch of the 2.4G Bluetooth Datalink. The green light will flash quickly waiting for the connection with the phone bluetooth.



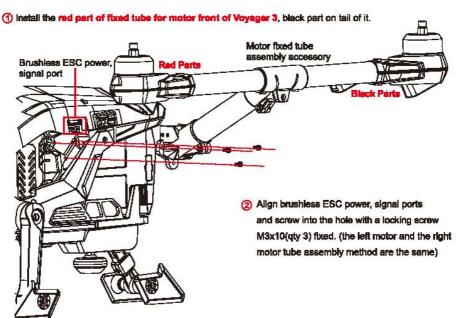
Enter phone settings and open the bluetooth function. In the bluetooth search list find and touch "walkera-\*\*\*\*", input password 1234 to connect. The connection is successful if it displays "connected". Exit the settings when finished.

# **VOYAGER 3-**

⑤ Touch GCS loon in the middle of the mobile screen, the GCS software will search automatically and display matched bluetooth, then select the matched bluetooth and touch the GO loon to enter the main screen. In the main screen, touch [22] loon then touch stick mode to enter the stick control and setting screen. (The landing skids automatically extend.)

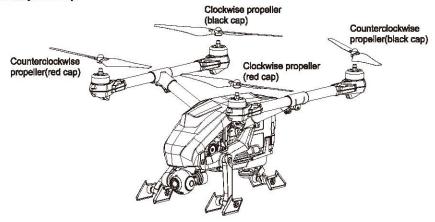


- (6) In case of safety, after skid landing reset, please turn off the drone power first, and exist out of GCS software, and then do the assembling as below.
- Installing the motor fixed tube accessories



### Propeller installation

Install the clockwise propeller(red/black cap) on clockwise motor(levogyrate thread is counterclockwise) in counterclockwise direction, while install the counterclockwise propeller(red/black cap) on counterclockwise motor (dextrogyrate thread is clockwise) in clockwise direction, then Make sure the propellers are installed correctly and firmly.



### 1.5 Learn how to fly safely

- (1) This product is suitable for people who has flight experience of model plane and older than 14-year-old.
- (2) Do not fly in bad weather, such as windy, snowy, foggy weather, etc..
- (3) Select an open area, no-tall-buildings area. Extensive use of steel buildings will affect the compass work, blocking the GPS signal, causing worse on the aircraft positioning effect or even not able to locate.
- (4) Please stay away from high-speed revolving parts(such as propellers and motors) during flight.
- (5) When flying, please keep the drone in sight, away from obstacles, people, water and so on.
- (6) Do not fly it in where there is high-voltage lines, communication base stations or towers, in order to avoid interference by the remote control.
- (7) Please don't fly it in no-fly zone. Make sure the follow your local rules and regulations.
- (8) Flight performance will be effected when you fly it with above the altitude of 4500 meters, as the battery and gravity system will be influenced.

# **VOYAGER 3**-

### 1.6 Specifications

### Aircraft specifications

Main Rotor Dia.: 346mm

Overall (L x W x H): 473 x 463 x 300mm

Weight: 3650g (Battery included)

Transmitter: DEVO F12E(black version)

Receiver/Main Controller: FCS-RX701(FCC)/FCS-RX702(CE)

Brushless Motor: WK-WS-42-002

Brushless ESC: Voyager 3 (R/B)

2.4G Bluetooth Datalink: BT-2403A(FCC) & BT-2401B(FCC) / BT-2404A(CE) & BT-2402B(CE) - Android system

BT-2403A(FCC) & BT-2403B(FCC) / BT-2404A(CE) & BT-2404B(CE) - Apple IOS system

Battery: 29.6V 3000mAh 10C(8S) LiPo x2

Flight Time: Approximately 25 minutes

Working environment: -10 C~ +40 C

### Gimbal specifications

Control accuracy: 0.02°

Control range: Pitch rotation -120°~+60°; Horizontal ±360° continuous rotation

### Camera specifications

a. Video

Video Resolution: 3840 x 2160 15fps

Micro High Speed SD card: Max 64G

Video Format: MOV

Photo: 4608x3456 Pixels

b. 5.8G wireless

• 5.8G wireless image transmission

• FCC Bind B section: 4 channels

· CE Bind B section: 8 channels

FCC Output Power≤200mW

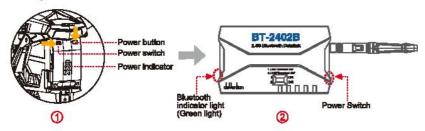
CE Output Power≤25mW

# 2.0 Ready for flight

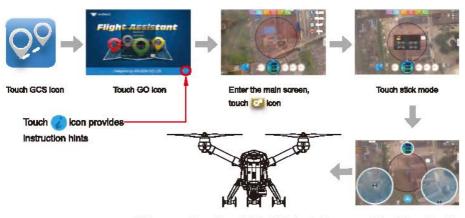
Put the model plane to outdoor an open area, and the user face tall of it.

### 2.1 Binding of the VOYAGER 3

- ① Turn the power switch to "ON", then press on the power button for 3-5sec. until the Green power indicator lights are solid.
- ② Turn on the 2.4G Bluetooth Datalink. The green light will flash quickly, waiting for the connection with the phone bluetooth.



- ② Enter phone settings and open the bluetooth function. In the bluetooth search list find and touch "walkera-\*\*\*\*, Input password 1234 to connect. The connection is successful if it displays "connected". Exit the settings when finished.
- (a) Touch the GCS icon in the middle of the mobile screen, the GCS software will search automatically and display matched bluetooth, then select the matched bluetooth and touch the GO icon to enter into the main screen. In the main screen, touch icon then touch stick mode to enter the stick control and setting screen.



Within approx. 40 sec. the red LED light will stop fleshing indicating that the code binding has finished.

Enter stick control and setting screen

# VOYAGER 3

### 2.2 Compass Calibration

In the main screen, touch [22] Icon then touch stick mode to enter stick control and setting screen.



**IMPORTANT:** Make sure the motors are locked before calibration (Aircraft red LED Indicator is NOT flashing). Factory default setting, is for the motors to be locked after completing the ID binding process. (For details on locking and unlocking the motors see point 2.5.)

- ① Touch the Icon and enter compans calibration.
  The red LED on the aircraft will flash rapidly.
- FORWARD rotation. Smoothly rotate the aircraft forward in 90 degree increments, pausing for 1 second every 90 deg. (0 / 90 / 180 / 270 / 360)
- 3 CLOCKWISE rotation. Rotate the aircraft around the roll axis smoothly in 90 deg increments. Pausing 1 second for each 90 deg. (0 / 90 / 180 / 270 / 360)
- (4) HORIZONTAL rotation. Rotate the aircraft around the YAW axis amouthly in 90 deg increments. Pausing 1 second for each 90 deg. (0 / 90 / 180 / 270 / 360)
- (S) NOSE DOWN rotation. Rotate the alroraft facing the nose down, rotate amouthly in 90 deg increments. Pausing 1 second for each 90 deg. (0 / 90 / 160 / 270 / 960)
- Put aircreft in the horizontal position,
   Wait approx. 40 sec. for the red LED light to stop
   flashing indicating that the code binding has finished.





Compass calibration icon









### 2.3 Route editing illustration

In the main screen, touch [32] icon and enter the route editing screen. When finished editing, touch [32] icon to upload the route into the aircraft.

Poeltion hold function: fix the position of the alreraft or operator

Map selection

Route write into alreraft

Readout route from alreraft

Route recorded into phone

Readout route from mobile phone

Waypoint increase

Route editing

Delete waypoint, long press calcon to clean upall waypoints inside the alreraft

### 2.4 GPS indicator lights

GPS Satellites	<8	6	7	8	9	10	11	12	13
The blue	No	Blinking							
LED status	blinking		2 times	3 times	4 times	5 times	8 times	7 times	6 times

#### IMPORTANT: For SAFE flight in GPS flight mode:

The BLUE indicator light should at least "double" blink, (two blinks at a time).

It is highly recommended that you wait for "triple blink" 8 statelites before starting the flight.

NEVER attempt to AUTO-START with less than "triple blinks"

### 2.5 Motor Unlock / Lock

#### Motor Unlock

After successfully binding, push the throttle control ball to the lowest point under stable mode. Long press the stable mode icon ( ), when the red LED Indicator turn solld red, the motor is unlocked. In this condition, when you move the throttle control ball up, the motor will run.

Note: For safety, the motors will automatically lock after 10 seconds. If you do not start flying in 10 seconds, you will have to unlock the motors again.



Long press stable mode Icon: Motor unlocked

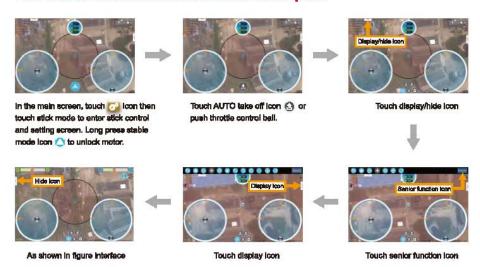
### Motor Lock



Long press AUTO takeoff icon: motor locked

# **VOYAGER 3-**

### 2.6 Function and stick control interface description



Function	leon	Instructions
Stable (normal) mode		Touch icon ———— Switch to common flight, using the control ball to control the Aircraft.  Long press the icon to unlock the motor.
AUTO TakeOff	•	Place alroraft — b Unlock Motors — b Touch Icon — b  The alroraft will automatically takeoff.  Notes: You can use this function only when receiving a strong GPS signal.
Auto Landing	<b>Q</b>	Touch loon ——➤ The aircraft will land automatically
Altitude hold mode	6	Touch icon — The aircreft will enter into Altitude hold mode eutomatically  Notes:  (1) You can use this function only when receiving a strong GPS signal.  (2) If there is no GPS signal or the signal isn't in good condition, the aircraft will enter automatically stittude hold mode, instead of holding at one position.
One key Return To Home	A	Touch loon ——— The aircraft will automatically return to the point of origin.  Notes:  You can use this function only when receiving a strong GPS signal.

Function	lcon	Instructions
Map selection		Map selection
Stick mode selection	0	There are 4 types of stick modes.
Compass calibration	0	Compass calibration
Gravity Sensor	•	The default setting is off, after turning on, the device is switched to gravity sensor control.  Loan forward  Loan forward  Right-learing  Backward  Backward
DATA Switch	(1)	Factory defaults are set to "open".
Hyper IOC mods	<b>(+)</b>	ICC means that the aircraft's flight direction is related to the position of the first GPS signals, rather than the direction the aircraft is pointed.  Notes:  (1) You can use this function only when you are receiving a strong GPS signal.  (2) During flight, the drone will enter hyper ICC mode when the distance between the flight position of the drone and the initial position where the GPS signal was established is more than 10m.  (3) In the ICC mode, regardless of which way the aircraft is pointing, you just need to press and hold back the control ball to make the aircraft fly back to the original talsoff position.
Waypoint record	<b>(</b>	Touch loon —— The alterait will record the flight points automatically.  Notes: You can use this function only when you are receiving a strong GPS signal.
Follow me mode	<b>3</b>	Touch loan The alternate could follow the location of mobile automatically  Touch the location of mobile automatically altitude satting box, according to environment choose "Normal" or "Fast" to set altitude.  Moteat You can use this function only when you are receiving a strong GPS algosi.

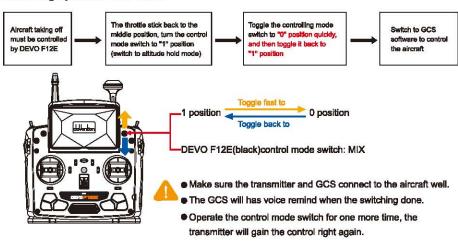


Function	leon	Instructions
Autometic Cruise	<b>©</b>	Touch loon The shoraft will cruise automatically  Touch loon The aircraft will automatically cruise according to pre-est route.  During flight, if you want to edit a new route, long press the Automatic Cruise loon Touch loon was to upload to the aircraft the new route.  Delete waypoint  Cruise according to edit route  Store Record to mobile phone  Write Into aircraft  Notes: You can use this function only when receiving a strong GPS signal.
Backtracking	0	Touch icon  The sircraft will automatically return to the point of origin.  Under automatic cruise mode, bouch the icon, and the aircraft will comes back automatically according to the pre-set route.  Notes:  (1) You can use this function only when receiving a strong GPS signal.  (2) You must touch the icon before the aircraft reaches the last waypoint in order to backtrack along the same path.
Circle flight	•	Touch loon The aircraft will automatically begin to circle.  Touch the loon In the submetic radius setting box, you can set radius according to environment and buch the Ge loon to start.  Notes: You can use this function only when receiving a strong GPS signal.
Single Waypoint flight	Q.9	Touch icon The aircraft will enter a hover when arriving at the flight point.  Touch the icon In the eutomatic altitude entiting box, you can est affitude according to environment and icouch OK icon to start.  Notes: You can use this function only when receiving a strong GPS signal.
Fence flight	<b>&amp;</b>	Touch loon ———— Automatically enter fence flight.  After touching the loon, the six raft will fly within the set area. The alicraft will return automatically when reaching the edge.  Notes: You can use this function only when receiving a strong GPS signal.

Function	lcon	Instructions
Skid landing folded	(3)	Touch the icon to make the landing skids retract/fold up.
Sidd landing unfolded	<b>(3)</b>	Touch the icon to make the landing skids extend/unfold.
Return distance	4	Return distance
Control the gimbal Pitch	•	0% Controlled variable
Control the gimbal Horizontal	•	0% Controlled variable

### 2.7 Instruction for switching from DEVO F12E controlling to GCS controlling

### Switching operation flow chart



# 3.0 End flight

- Manual landing or back home function landing.
- ② First, power off aircraft battery, then exit GCS software.
- 3 Take the battery out of aircraft.

# VOYAGER 3

## 4.0 Additional remark

### 4.1 Ground station software settings

### Channel setting

In the main screen, touch [3] icon to enter into the setting interface.



ELEV, AILE, THRO, RUDD default setting is "NORMAL".

Default setting of Gear Channel is "Reverse".







#### (1) Gsensor Reverse

If the gravity sensor is activated and the aircraft acts differently from the corresponding tablet pc or phone's inputs (please refer to page 12 for Gravity Sensor explanation), please press " $\sqrt{}$ " to reverse it.

### (2) FollowMe Height Set

Default height=10m

You can change the height with new settings(5-200m).

#### (3) One Key Takeoff

Default height=10m

You can change the height with new settings(5-15m).

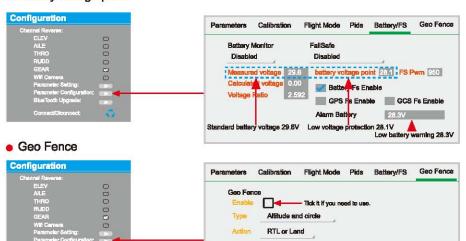
### (4) Waypoint Default Altiude

Default height=15m

You can change the height with new settings (5-400m).

15~1000m 15~1000m

### Battery voltage point



### 4.2 2.4G Bluetooth Datalink

The 2.4G Bluetooth Datalink consists of an Air end and Ground end, which provide reliable and stable long distance wireless transmission when Ground Station software is used. The signal flow is as shown below.



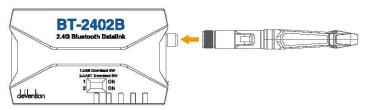


Air end: same usage as BT-2403A(FCC)/BT-2404A(CE), take BT-2404A(CE) as an example.

Ground end: BT-2401B(FCC)/BT-2402B(CE) - Android system; BT-2403B(FCC)/BT-2404B(CE) - Apple IOS system.

Ground end: same usage as BT-2401B(FCC)/BT-2402B(CE)/BT-2403B(FCC)/BT-2404B(CE), take BT-2402B(CE) as an example.

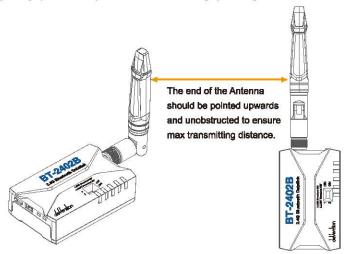
### Antenna Installation



# **VOYAGER 3**



- If there are obstacles between the ground and air ends then the radio signal between the 2.4G Bluetooth Datalink will be weak; make sure that the antennas are always visibly unobstructed during the flight. Human bodies, trees, builings or hills will disconnect the link between the Air end and the Ground end.
- Make sure that the antenna of the Air end is pointing down, and the antenna of the Ground end is
  pointing up; it's best to put the Ground end at a high place to get further transmission distance.

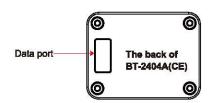


The cognition of BT-2404A(CE) the Air end

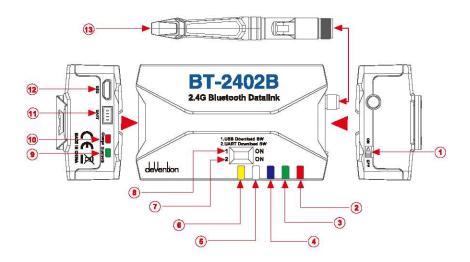


Green LED: Data receiving or transmitting indicator between the Air and Ground end.

Blue LED: Data receiving or transmitting indicator between the Air end and flight controller.



## BT-2401B(FCC) Ground end instruction



1	ON-OFF: Power switch
2	Power LED: Power indicator(RED)
3	COM-TX LED: Indicator of data receiving from ground station to the ground end (Green).
•	COM-RX LED: Indicator of data transmitting from the ground end to the ground station (Blue).
(5)	RF-RX LED: Indicator of data receiving from the flight controller to the ground end (White).
6	RF-TX LED: Indicator of data transmitting from the ground end to the flight controller (Yellow) .
•	1 USB Download SW
3	2 UART Download SW
9	Bluetooth: Bluetooth indicator (Green)
10	Charge: Charging indicator (Red)
11	UART
12	USB: USB port
13	Antenna



### LED Indicator descriptions

	LED status	Status instructions
	#Green LED flashes quickly	The Air end and Ground end are receiving/transmitting data
The Air	*Green LED keeps solld	The Air end and Ground end are not receive/transmit data
end	*Blue LED flashes quickly	The Air end and Flight control end are receiving/transmitting data
	#Blue LED keeps solid	The Air end and Flight control end are not receive/transmit data
	# / # Green and Blue LED flashes slowly	The Air end and Ground end have lost signal
	* Power LED keeps solid Red	Normal power voltage
	* Power LED flashes Red	Power voltage is less than 3.3V
	*COM-TX LED flashes Green quickly	The Ground end is receiving Ground Station data
	* COM-TX LED keeps solid Green	The Ground end is not receiving data from the ground station.
The Ground end	* COM-RX LED flashes Blue quickly	The Ground end is transmitting data to the Ground Station
	# COM-RX LED keeps solid Blue	The Ground end is not transmitting data to the ground station.
	: RF-RX LED flashes White quickly	The Ground end is receiving Flight Control data
	:RF-RX LED keeps solid White	The Ground end is not receiving Flight Control data
	RF-TX LED flashes Yellow quickly	The Ground end is transmitting data to the Flight Control
	RF-TX LED keeps solid Yellow	The Ground end is not transmitting data to the Flight Control
	* / * RF White and Yellow LED flashes slowly	The Ground end lost contact with the Air end
	# Bluetcoth LED flashes Green quickly	Bluebooth unconnected
	# Bluetooth LED flashes Green slowly	Bluebooth connnected
	*Charge LED keeps solld Red	Charging
	*Charge LED lights out	Charging finished / normal situation

### 4.3 Program Upgrade

Uprade (UP02 and UPO2 adaptor requested)

Both the Air end and the Ground end program can be upgraded at the Walkera website.

### a. Air end Upgrading

(1) Insert the red, yellow, blue and black flat cables into "UART" port.

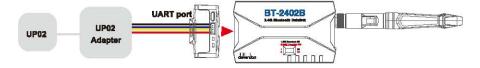


(2) Press the "Upgrade" button to supply power and enter the upgrading state.



### b. Ground end Upgrading

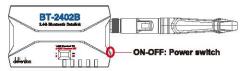
(1) Insert the red, yellow, blue, black color flat cable into the UART port.



(2) Turn the switch "UART Download SW" ( "ON" position)



(3) Turn on the power switch to enter into upgrading status ( "on" position)





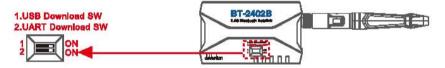
- Upgrade ( GCS Software requested)
- a. Ground end upgrading
- (1) Turn on the switch "2. UART Download SW" (position "ON")



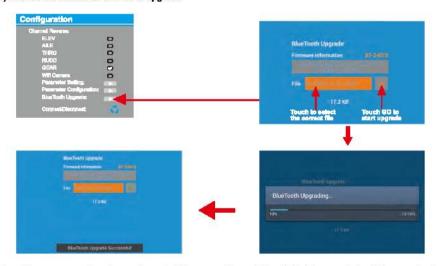
- (2) Connect the Ground end to the Ground Station software GCS and enter into the upgrade interface.
- (3) Choose the correct Ground end file to upgrade

### b. Air end upgrading

(1) Turn ON switches "1. USB Download SW" and "2. UART Download SW"



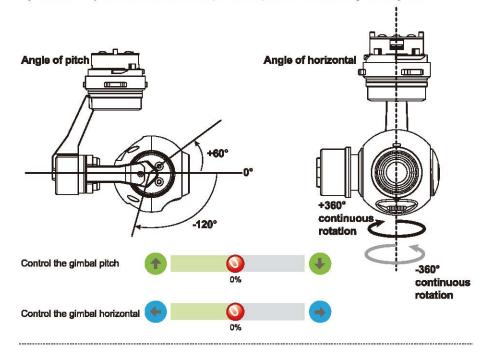
- (2) Connect the Ground end to the Ground station software GCS and enter into the upgrade interface
- (3) Connect the Air end to the Ground end.
- (4) Choose the correct air end file to upgrade



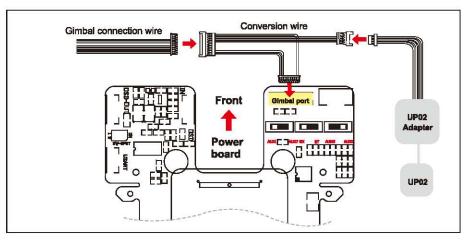
Tips: Please reconnect and upgrade again if the upgrading can't be finished successfully within one minute.

### 4.4 Instruction of Gimbal

Three-axis stabilization gimbal makes the camera steady so that it can shoot stable photos even fly with high altitude. And you can use GCS control strip to control pitch and horizontal angle of the gimbal.



### Gimbal upgrade connection diagram



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Fax.: (8620) 8491 5117 Email: heli@walkera.com info@walkera.com

Add.: Taishi Industrial Park, Dongchong Town nansha District, 511475 Guangzhou



Specifications, contents of parts and availability are subject to change, Walkera is not responsible for inadvert errors in this publication.

Web:www.walkera.com

Warning: 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.

NOTE: 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
rec	eiver is connected.
	Consult the dealer or an experienced radio/TV technician for help.

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.

Shielded usb cable must be used with this unit to ensure compliance with the Class B FCC limits.

"FCC RF Radiation Exposure Statement Caution: To maintain compliance with the FCC's RF exposure guidelines, place the product at least 20cm from nearby persons."