MARK

User Manual

V1.0.1

Contents

Legend

Symbols

⚠ Warning   💡 Tips

Reading Suggestions

We have provided the following materials for Mark users：
《In the Box》
《Battery Safety Guidelines》
《Disclaimer》
《Mark Quick Start Guide》
《Mark User Manual》

To learn how to get the most use out of your Mark, we suggest you read them in this order。

Downloading the App

Before using this product, you need to download and install the FlighGo app. You can scan the following QR codes, or search for FlightGo in App Store or Google Play, or login and download from www.hg-fly.com website

supports Android 4.3 and later versions, iOS 9.0 and later versions

Overview

This section will introduce Mark's features and the names of Mark's principal components

Introduction

Mark is a portable and easy-to-use drone for entertainment. It consists of the aircraft itself and an accompanying APP.

Through using the APP, you can control Mark's flight, take photos and record videos

Feature Highlights

In order to give you a convenient and safe flying and photographing experience, Mark has several great features:

FlightGo

The APP is specifically developed for Lily and is simple to use. It can be used as a remote control for flight control and for photo & video shooting

VIO Positioning

Mark uses fish-eye camera and IMU inside drone instead of GPS signal for positioning . Please install the propeller guard when flying indoors

Memory Cruise

Mark will memorize flying route while flying at the first time and repeat the route autonomous in second time flying .

Fly indoors to outdoors seamless

Mark benefits from VIO visual positioning system and IMU inside drone and be able to fly from indoors to outdoors seamlessly , VIO visual positioning breaks constraints of GPS signal and makes sure Mark could fly with more places .

High Defnition Photo & Video Capture

Mark is equipped with a professional high-definition camera, the SONY IMX 214, 13MP. It features 4K and 1920 x 1080 video shooting.

Electronic Image Stabilization (EIS)

Mark is equipped with electronic image stabilization (EIS), which reduces or eliminates vibration in video. With EIS, Videos are stabilized at a resolution of 1920 x 1080p at 30 fps

Object Tracking and Follow Me

Using advanced image recognition technology, Mark can follow and record video on a moving object you've chosen.

Short video production

Mark has kinds of autonomous one-key operation for short video production,such as orbit 360˚ shot mode ,rocket mode ,dronie mode .

Intelligent Operation

When flying outdoors, the FlighGo app supports multiple one touch flight operations with just one tap on the screen, such as One-Touch Takeoff, One-Touch Landing, and One-Touch Return.

One-Touch Sharing

Directly share your photos and videos with your friends on SNS.

Mark At-a-Glance
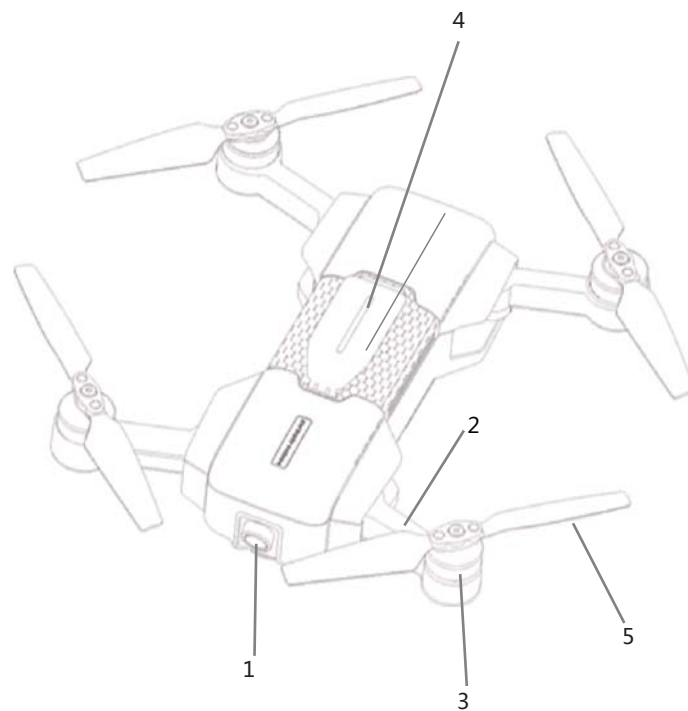
1. Camera
2. Arm
3. Indicator Light
4. Propeller
   Holder (Detach
   able)
5. Propeller

6. VIO Positioning Camera
7. Battery
8. Power Level Indicators
9. Power Button, Indicator
   Light

10.   Micro-USB Port
   &Wifi Reset Button

Features

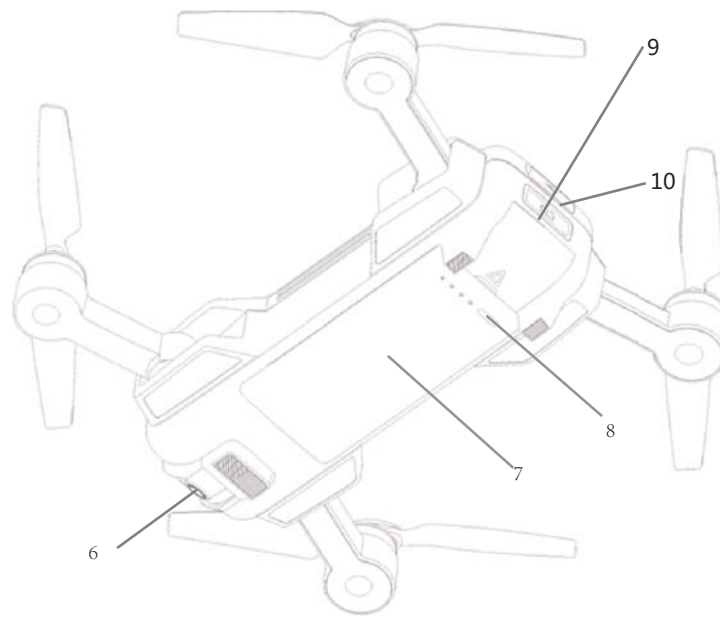Mark principally consists of five systems: flight, positioning, communications, power supply and the camera system. This section will explain the functions of each

On/Off Switch and Power Indicator

The On/Off Switch has a built in Power Indicator.
Hold the On/Off Switch for 3 seconds. Wait until the Power Indicator shows solid green, then remove your finger and Mark will switch on. After a few seconds, Mark will sound, alerting you that the ESC has turned on.
After connecting to the app, the Power Indicator will flash green. Hold the On/Off Switch for 3 seconds. Wait until the blue light of the Power Indicator goes out, then remove your finger and Mark will switch off.

Drone Status Indicator

On the tail of the aircraft, there's an RGB indicator that shows the status of Mark. The Status Indicator's colors and corresponding meanings are as follows:

Solid light green -------Aircraft is initiating
Green light single flash ------- VIO visual positioning
Red&Green lights flash alternately-----Aircraft is reporting an error
Solid light Red -------Aircraft is working on entertainment function
Blue light single flash -------VIO positioning not working
Solid light Blue --------Aircraft is working on Memory Cruise flying
Solid light Purple-------Hardware inside damaged

VIO visual positioning
Mark uses fisheye camera and IMU inside drone instead of GPS signal for positioning.
When the aircraft fly from outside and inside, VIO works continuously, and the aircraft can fly seamlessly.

Requirements for the VIO visual positioning :

Full of light on surfaces ,the area underneath the aircraft needs to have a clear textured surface。

⚠ The VIO visual positioning system may not work under these circumstances, so please use with caution:

✕ dark place and a single color place；
✕ dimness textured surface；
✕ the dark night；
✕ The aircraft tilts more than 30 degrees and vibrates badly

✕ Make sure that VIO camera used for positioning is clear and nothing covered.

Propellers

Mark has 4 sets of foldable propellers. The propellers are already
mounted; users need only to expand the arms before the
flight，different directions of arrows means different direction of
propellers rotating -CW&CCW,as in the following figure：

Replacing the Propellers

The propellers must be replaced with ones that spin in the same direction，Propeller blades with an "CW" on top must be replaced with ones that also have an "CW". Blades with a "CCW" on top must be replaced with ones that also have a "CCW", as in the above figure.

How to replace propeller blades:Use a wrench or a screwdriver to loosen the screws, remove the old ones and mount the new ones onto the base, as shown in the following figure:
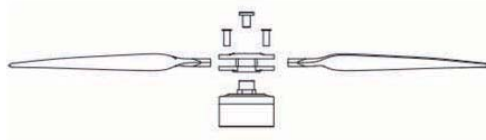
⚠️ ✳ Please ensure that the propeller is tightly screwed in, to
✳ prevent the screws coming loose and the blades coming off during flight. They need to be re- tightened after every 10 hours of flight.

Battery

The battery is designed specifcally for use with Mark. It has a rated capacity of

·1500mAh and a nominal voltage of 7.6V

·There are indicators and button on the battery ,pressing the button and the indicators will show the current battery level and go out automatically after 5 seconds. The indicator's status and the corresponding battery level in percentage are shown as follows:

◆◆◆◆	75%~100%
◆◆◆◇	50%~75%
◆◆◇◇	25%~50%
◆◇◇◇	0%~25%
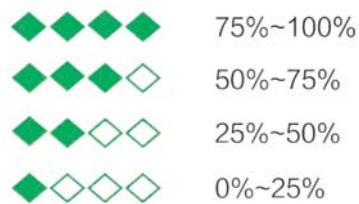
Charging the Battery

We suggest you use the provided Lily battery charger devices to charge the battery. Any issues that occur due to use of other charging equipment shall be the responsibility of the user.

The battery charger" s features include:

• Balance Charging Protection: Automatic balancing of the battery's internal cell voltage to preserve the battery;
• Overcharge Protection：Overcharging can seriously damage the battery. The battery will stop charging once it's charged to 8.6V;

Please remove battery and shut down power once indicators on charger keep solid green which means charging completely

Mark's Micro-USB port can only be connected to data communication ports, do not connect it to power sources like power banks.
Any issues that occur due to use of charging battery inside the drone shall be the responsibility of the user

Camera

Mark is equipped with a professional high definition camera- SONY IMX 214,13MP, that supports 4K and 1920x1080 video shooting.

Signal Frequency

The drone uses 5.8GHz/2.4GHz. Different versions may connect with a mobile device at different frequencies. Please check the aircraft frequency from the package.

Micro-USB Port

While Mark is turned on, use the provided USB cable to connect Mark to your computer. You can then copy your photos and videos onto your computer.

⚹ Mark must be turned on to be able to connect to your computer

⚹ Mark's Micro-USB port can only be connected to data communication ports, do

not connect it to power sources like power banks.

Reset Button

To reset the Wi-Fi, default SSID and password, hold down the Reset Button on the base of

the drone for 3 seconds until the Aircraft Status Indicator fnishes blue:

• SSID : Mak-XXXXXX.

(Labeled beside the battery compartment on the base of the aircraft, the XXXXXX is THE

LAST 6 alphanumeric digits of the Wi-Fi's MAC address)

Default password：highgreat

APP

This section will cover the main sections of the LILY CAMERA NEXT-GEN DRONE app and the settings

APP Overview

FlightGo is specifically developed to be used with Mark. Users can use the APP as a remote controller for flight control and photo and video shooting. You can also directly share your photos and videos to social networks.

App Operation Interface

All the key status indicators and main function buttons are shown on the operation interface:
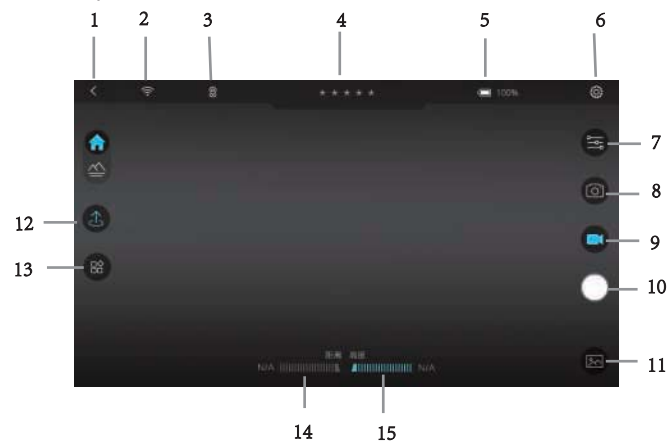
1.Back to main interface 2.Wi-Fi Connection Status   3.Positioning Status

4. Status   5.Aircraft Battery   6.APP Settings

7.Camera Setting   8.Photo   9.Video

10.Shutter   11.Media Library   12.Takeoff/Landing

13.Multifunction Button14.Current Flight Distance   15.Current Flight Height

App Settings

Geo Fence
It's turned off by default ,aircraft flight range will be limited after Geo fence setting opened

Photograph Vibration

It's turned off by default. When it is activated, your mobile device will vibrate after taking a photo

App Mute

It's turned off by default. When it is activated, your mobile device will be muted when the app is used

Gesture recognition

It's turned on by default.Gesture recognition will not work after turned off

Control Method

It's set to "Safe Sticks" by default.
There are 3 control methods which users can select: "Motion Sensing", "Free Sticks" and "Safe Sticks".
Motion Sensing
Motion Sensing uses your mobile device's gravity sensor. It allows you to control Mark's flight by tilting your mobile device. For specifics on operation, please refer to "Motion Sensing" onpage XX
Free Sticks
Free Sticks allows you to control Mark's flight by using virtual sticks and toggling up/down/left/right. For specifics on operation, please refer to "Free Sticks" on page XX.You can choose between "Mode 1" (right-hand throttle) and "Mode 2" (left-hand throttle)
Safe Sticks
Safe Sticks allows you to control Mark's flight by tapping on the arrows on the four directions in the virtual sticks. For specific on operation, please refer to "Safe Sticks" on page XX.You can choose between "Mode 1" (right-hand throttle) and "Mode 2" (left-hand throttle).

Change Wi-Fi Information

You can change the Wi-Fi" s SSID and password. The SSID can be up to 16 characters. The password has to be between 8-20 characters long and can be made up of numbers, letters and/ or special characters.

Lily FC Update

Upgrade the drone's flight control through the app.

Lily OS Update

Upgrade the drone's operating system through app.

Available Storage

Check the available storage space on Lily. Please plan your shooting according to the available storage space.

Personal Center

Settings

Quick Guide
Check Quick Start Guide for a quick overview

Malfunction Report

Please enter into personal center and describe the fault information and SN number submit flight log on App ,our engineers will investigate and reply back to you

Suggestions and Feedback

Please enter your feedback to help us improve software releases for your drone as well as future product development.

Change Password

You can change your personal login password(not the drone's Wi-Fi connection password)

Language

Choose your preferred language.

About

High Great Website, User Agreement, etc.。

Media Library

When opening the media library, it will go to the photo gallery by default. Tap the "Video" button at the top of the screen to switch to the video gallery.

Photo Thumbnailss

When you are connected to Mark's Wi-Fi after you take photos, the thumbnails will automatically be sent to your mobile device. The photo gallery displays thumbnails in date order. Swipe up to load more thumbnails and swipe down to load new thumbnails.

If a photo is already downloaded to your mobile device, a mobile phone icon will be added to
the top right-hand corner of the thumbnail .

Selecting Photos

Tap the photo to select. To select all the photos Lily took in one day, tap the "Select All" next to the date.

Deleting Photos

After selecting photos, tap the "Delete" button in the upper right-hand corner of the screen to remove them from your media library.

When you are connected to Mark's Wi-Fi, it will delete
the files from Mark. When the Wi-Fi is not connected, it will not
delete the files from Mark.
The browsing page also has a "Delete" button, so you can
delete photos directly.

When an Android device is connected to Mark's Wi-Fi, it will
ask you to choose to delete from the mobile device or from
Mark.
Some Android devices do not yet you undelete photos.

MARK
Disclaimer
(V1.01.1) Date :
2018.04

Disclaimer

Thanks for purchasing Mark (HIGH GREAT) product,Mark is NOT a toy and is NOT suitable for children under the age of 18.Disclaimer contains quick overviews of safety tips.Make sure you read and understand the remaining sections of Mark Disclaimer ,Safety Tips and Safety Guidelines .
By using this products ,you hereby signify that you have read this disclaimer carefully and that you understand and agree to abide by the terms and conditions in this disclaimer
HIGH GREAT accepts no liability for damage ,injury or any legal responsibilities inoccurred directly or indirectly from use of this product

1.HIGH GREAT keeps the rights to update this Disclaimer and to get latest Disclaimer please visit http://www.hg-fly.com.there is no notification to update this Disclaimer

2.HIGH GREAT All Rights Reserved .

Disclaimer

HIGH GREAT accepts no liability for damage ,injury or any legal responsibilities inoccurred directly or indirectly from use of this product as following

1.　　Not reading Quick Start Guide ,Disclaimer,In The Box,Make User manual and statements on HIGH GREAT website .incorrect ways to install and operate this aircraft .

2.　　Users under the influence of anesthesia ,alcohol ,drugs or suffering from dizziness ,fatigue ,nausea ,or any other conditions,whether physical or mental ,that could impair your ability to operate the aircraft safely .

3.　　Mental compensation caused by any use of aircraft .

4.　　Improper maintenance , disassembling ,fixing ,refit and replacing original accessories provided by HIGH GREAT .

5.　　Unauthorized tampering code of app or flight control software.

6.　　Flying in complex magnetic or radio interference,building and other obstacles .

7.　　Flying in high sea level ,extreme weather ,windy ,cloudy and cold weather.

8.　　Flying in night and darkness surface .

9.　　Flying in No-Fly Zone ,public infrastructure ,above people or other dangerous area .

10.　　Flying aboe 120M ,Users shall take responsibility to flying above 120 meters illegal flying .

11.　　Failure on operation or misjudgment.

12.　　Improper storage , such as strong impact、extrusion , or improper environment（such as throw into water or fire）

13.　　Injuries or cut by still or working propellers with improper using .

14.　　Injuries or damage cause by improper use of battery , battery doesn't work caused by sharp objects damage or superimposed force.

15.　　Aircraft malfunction caused by improper operation .

16.　　Aircraft malfunction or other parts breakdown caused by pressing or extrusion while carrying .

17.　　There are clear signs or notification of abnormal aircraft and battery before using,users don't check status of aircraft and battery or users still keeping using aircraft and battery once malfunction be found.

18.　　Malfunction caused by wear and tear ,corrosion,wiring aging

19.　　Any loss and damage caused by infringement which the users use the aircraft and the matching APP to obtain the data, audio or video information, etc.

20.　　Any indirect loss and legal liability caused by the problem of equipment, accessories or APP, such as image or video cannot be saved.

21.　　The operator has not complied with the local laws and regulations.

22.　　Other damage that does not fall within the scope of HIGH GREAT'S responsibility.

Warning

1.unauthorized modification and alteration are prohibited and HIGH GREAT accept no liability for damage ,injury or any legal responsibilities caused by unauthorized modification and alteration

2.Make sure you use a dedicated battery and charging device that is provided by HIGH GREAT,Please get-rid of the used battery correctly according to the instruction , Mark's Micro-USB port can only be connected to data communication ports, do not connect it to power sources .

3.Please keep Mark flying in sight ,please keep your arms ,fingers and other body parts away from rotating propellers ,please keep aircraft a certain distance with people ,obstacles ,water .

4.The battery may be high temperature after use please don't touch used battery immediately in case of scalding.please folding propellers carefully and improper folding may cause scratching , and HIGH GREAT accept no liability for damage ,injury or any legal responsibilities caused as above improper using .

5.Please place the product or accessories in a place where beyond the reach of under the age of 18,please keep related accessories away from children in case of eating by mistake,Please keep Mark flying away from animals

6.DO NOT use this product for any illegal or inappropriate purpose （include but not limited to）：

•Slander、harass、abuse、threaten、stalk or otherwise violate the legal rights(such as the right of privacy and publicity)

•Photographing or photographing private areas without permission.

•DO NOT use this product for any illegal or inappropriate purpose(such as spying,military operations,or unauthorized investigations)。

•Violation of any laws, administrative regulations and public order in the area of product use。

The intellectual property rights of this product and manual shall be owned by HIGH GREAT company. Without written permission, no organization or individual shall reproduce, reproduce or publish in any form. If there is a quotation or publication, the source must be noted, and the manual shall not be used against the original reference.。

Instructions for battery safety

Before using the HIGH GREAT MARK lithium polymer rechargeable battery for charging, please read the safety instructions of the battery carefully and follow the instructions in the manual.

Pre-charging check

1. Please check the appearance of the battery carefully. Please do not charge the battery once battery is damaged such as the surface of battery is bulging or leaking 。

2. Check the charger and the appearance of the battery regularly . Do not use damaged chargers for charging. check the status by connecting power and charger before charging battery, and the green LED light flashes one time means charger is working well

3. Please use adapter and charger provided by HIGH GREAT for battery charging ,Users shall take all responsibilities if using other adapter and charger which not provided by HIGH GREAT.

Cautions Of Charging Battery

1.Do not charge the high temperature battery immediately after the flight, otherwise it will cause serious damage to the battery life. Charging the high temperature battery will activate protection mechanism which will prolong the charging time.

2.If the battery is very low, please recharge it as the battery is restored to normal temperature. Too low and not timely charging will lead to battery discharge, which will cause damage to the battery.

3.Do not charge batteries in any environment near combustible or combustible materials.

4.Keep an eye on the charging process to prevent accidents

5.In case of fire, please cut off the power immediately and extinguish it in the right way.

6.The charger supports charging the battery in the range of 5 ~40 C, and the charger will not be charged beyond the temperature range. At lower temperature (5 ~15 C), the charging time is longer. At normal temperature (15 C ~40 C), the charging time is shorter.

Cautions Of Using Battery

1.DO NOT disassemble, impact or squeeze batteries in any way ,Otherwise, the battery will be damaged, bulged, leaked or even exploded.

2.If the battery is deformed, bulged and leaked and it's obviously abnormal (such as connector burn black), please stop using it immediately

3.DO NOT make any man made short circuit。

4.Do not place battery in a high temperature above 60 ℃, otherwise the battery life will be shortened. Keep away from water sources, fire sources, humid and corrosive environments

5.Please place the battery in places where children and pets can't reach.

7.The battery normal operating temperature range is 5 ℃ to 40 ℃. Overheating can cause batteries to catch fire and even explode. Too low temperature can seriously affect the battery life. When the battery temperature is outside the range, it cannot provide stable power output for aircraft and aircraft may not be able to fly properly。

8.DO NOT plug the battery before aircraft is shutdown , which may cause video or photo lost, even may cause electrical outlets damage, and shorten the life of the internal parts and damage。

9.If the battery falls in water, place it in a safe, open area and keep away from it until the battery is dry. After drying, the battery cannot continue to be used. Please get rid of battery follow the recycling method and local laws and regulations.

10.If there is a fire in the battery, choose a solid fire extinguisher and put out the fire in the right way

11.If the battery connector is contaminated, please use dry cloth to wipe clean, otherwise it will affect the battery contact and resulting in power loss or unrecharging。

12.If HIGH GREAT MARK accidentally falls, please check the battery to ensure that it is intact. If there is any damage, cracking, failure or other abnormal conditions, please do not continue to use the battery, and properly handle it according to the recycling method and local laws

Storage and Transportation

1.DO NOT store batteries in any damp, leaky, sandy, dusty and dirty environment. Do not put batteries approach any flammable, explosive or heat sources, and avoid direct sunlight.。

2.If you do not use MARK for a long time, please remove the battery from the fuselage and store it separately. Otherwise, the battery will be overlaid and the battery will be permanently damaged. If the battery cannot continue to be used, please follow the recycling method and local laws and regulations.

3.Battery storage temperature range

Short-term storage（within a month）：-10℃ ~40℃

Long-term storage（within a month）：-10℃ ~30℃

4.When the battery is stored for a long time, it is recommended to charge battery every two months to maintain the cell activity

5.If the battery is stored for a long time, it is recommended to store up to about half of the battery power. This will help to extend battery life. You can check the battery remaining power by APP

6.DO NOT store or transport batteries with eyeglasses, watches, metal necklaces or other metal objects.

7.Battery transport temperature range: 23 + 5 ℃

8.DO NOT transport damaged batteries. the battery need to be discharged to about 50% remaining power once transported

9.DO NOT impact, crush,drop or puncture batteries，man-made short circuit is prohibited

10.Do not leave the battery in the car cause the temperature in the car will rise rapidly in hot weather，otherwise it may cause the battery to fire or explode，personal injury and property damage.

11.Do not discharge the battery to less than 5% of the battery before bringing the battery to the flight. Be sure to keep away from the fire before discharge.

Maintenance of Battery

1.Do not use charger in the environment of high temperature or too low temperature.

2.Do not store the battery at room temperature more than 60℃

3. Charge battery every two months to maintain the cell activity

Waste and recycling of batteries

Do not discard the old battery. Please be sure to send the battery to the designated battery recycling bin after discharging, and comply with the local laws and regulations on the recycling of waste batteries.

FCC Statement

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.

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.

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

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

MARK FAQ's

1. How to correctly power on/off the aircraft ？
 Hold on the power button 3S to power on the aircraft until green light flash.
 Hold on the power button 3S after landing to power off the aircraft until green light out。
2. What is max controlling range of Mark?
 Max controlling range will be 70m in the open and non interfered environment,max vertical height will be 20M(environmental restriction)
3. How long does it take to charge battery of Mark ?
 Users need to use adapter and charger provided by HIGH GREAT and take 45 mins to finish charging

4.What is max flying speed of Mark?

In Free Sticks mode，the max horizontal speed is 3m/s，max vertical speed is 2m/s

5.What if app stop working while flying ?

Mark will land or go back to take-off point once lost communication with aircraft .

6.What is available storage of Mark?

Mark has EMMC storage of 16G

7.What does FlightGo control software require for mobile phone system?

 Android 4.3 and later versions, iOS 9.0 and later versions.

8 .What circumstances will affect the VIO positioning of aircraft?

Extreme weather such as strong winds, rain and snow, and no texture environment such as lake surface and sea level.

 9. How will the MARK response if the battery is not enough?

 MARK will judge the power level according to the current height and the distance from users.and there is different status on App interface according to aircraft's status.

10. After downloading photos or videos, photos or videos still exist in the aircraft?

MARK will store photos and videos captured, unless users delete those files .

11. Will the aircraft can be used at night ?

DO NOT fly Mark at night cause VIO positioning can not work well in darkness and at night

Warranty Card

Purchase Information

Serial No.   Purchase Date

Dealer   Telephone

Address

User Name   Telephone

Address

Maintenance Records

Repair Date	Fault and Repair Conditions

In need of maintenance service, please contact your dealer, or contact HIGHGREAT customer service in the following ways:

E-mail : service@hg-fly.com

TEL:400-888-9686

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Website

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