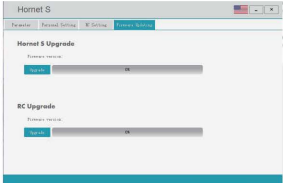# Hornet S
Remote Controller
RD12

Operation Manual
www.JYU.com

PART DESCRIPTIONS

Hornet S Communication Indicator
red: disconnected
green: connected

remote battery capacity indicator
red: low capacity
green: battery capacity OK

RGB mode

photo/video

left sticker

right sticker

power on/off
return to home

hook
take off/land

mode switch

3. professional mode
2. normal mode
1. beginner mode

phone access

charging and live view port

antenna

gimbal up down wheel

LED brightness wheel

CH+ (add channel)

CH- (reduce channel)

LED INDICATOR

connection indicator

GPS status indicator

remote battery capacity indicator

There are 3 Bicolor (red/green) LED indicators on the remote controller used to indicate the status of communications, GPS and battery capacity.

1. Conmmunication Indicator
The communication indicator will show green when the remote controller is successfully connected to the Hornet S and the user can operate the remote controller normally.
The communication indicator will show red when the remote controller is disconnected from the Hornet S due to long communication distance or electromagnetic interference.

2. GPS Status Indicator(this function is not yet available)

3. Battery Capacity Indicator
(Attention: This battery capacity indicator is for the remote controller battery, not the intelligent flight battery in the Hornet S.
The battery capacity indicator will show green when the remote controller battery is at a normal capacity level.
The battery capacity indicator will flash red and the alarm will vibrate ON and OFF every 5 seconds when the remote controller battery is at a low capacity level.

Charging Instructions
Plug the charger into the Micro-USB port. Turn the remote controller power and the charger power ON. During charging the battery capacity indicator will be red. When charging is complete it will be green.

POWER AND FUNCTION BUTTONS

The remote controller front panel has a Power Button, a 3 position Mode Switch and 4 function switches. Two additional function switches can be found on the rear panel.
There are two ways to use the buttons; Short Press (<1.5 seconds) and Long Press (>1.5 seconds). If the button is pressed and held longer than 1.5 seconds the remote controller will vibrate to confirm the Long Press.

1、Return to Home
● Short Press
The Hornet S will automatically return to the Home location selected using the Long Press.
● Long Press
Set the current location as Home.
2、Take Off/Land
● Short Press
The Hornet S will automatically land in the current location.
● Long Press
The Hornet S will automatically take Off in the current location.
3、Take Photo/Video
● Short Press
The Hornet S will take a photograph.
● Long Press
The Hornet S will start recording video when the button is first pushed. Recording will stop when the button is pushed again.
4、LED Control Button
● Short Press
Change the LED mode.
5、CH+
● Short Press
Add another channel while in the Gimbal Setting Mode.
6、CH-
● Delete one of the exiting channels while in the Gimbal Setting Mode
7、Mode Switch
The Mode switch can be set to one of these three levels:
1. Beginner Mode
2. Normal Mode
3. Professional Mode

FUNCTION

1、On/Off
Slide the switch to turn ON power to the remote controller. It will vibrate once to indicate it is in US / North America configuration (throttle on left stick).

2、Flight Mode Switch
Mode 1 (Beginner): The GPS and Barometer hold position and altitude stable. Flight speed is 1/2 of Mode 2 (Normal). Slower, stable flight is perfect for beginners.
Mode 2 (Normal): The GPS and Barometer hold position and altitude stable. Flight speed is set by the user. This mode is a good choice for users familiar with operating drones.
Mode 3 (Professional): The GPS and Barometer are not used to hold position and altitude stable so the aircraft can respond quickly to changes and perform acrobatics. It can also fly at very high speeds. This mode is suitable for skilled fliers.

3、Return to Home
1) Set the current location as Home by Long Press of button.
2) When in Mode 1 or Mode 2 and GPS is Normal, a Short Press of button will make the Hornet S automatically return to the Home location.

4、Take Off/Land
1) When in Mode 1 or Mode 2, the GPS is Normal and the Hornet S is locked and in standby, a Long Press of button will make the Hornet S automatically fly to an altitude of approximately 5 meters and then hover in that location.
2) When in Mode 1 or Mode 2 and the Hornet S is unlocked and flying, a Short Press of button will make the Hornet S automatically land and lock at the current location.

5、Photo/Video
If the Hornet S has a camera installed, a Short Press of the Photo/Video button will cause the Hornet S to take a picture. A long press of the button will cause the Hornet S to start recording a video. A second press of the button will stop the recording.

6、LED Control

6、LED Control
A Short Press of the LED control button will switch the LED pattern to Breath Mode. Another press of the LED control button will switch the LED pattern back to Rotation Mode.

7. Throttle Configuration
The default throttle configuration is left stick (US/North America).
To set the throttle to right stick turn the Remote Controller OFF. Press and hold the LED Control and the Photo/Video buttons and turn the Remote Controller ON again.
When the Remote Controller vibrates twice, release the buttons, it is now configured to have the throttle on the right stick (Japan). As long as the Remote Controller is in this configuration it will vibrate twice when power is turned ON.
To return the Remote Controller to throttle on left stick (US/North America), turn power OFF. Press and hold the LED Control and the Photo/Video buttons and turn the Remote Controller ON again.
When the Remote Controller vibrates once, release the buttons, it is now configured to have the throttle on the left stick (US/North America). As long as the Remote Controller is in this configuration it will vibrate once when power is turned ON.

8、Image Transmission System Radio Frequency
The Hornet S supports wireless transmission of the video signal. Camera data is sent to the Remote Controller and displayed on an external device such as FPV goggles, FPV display, smart phone or smart watch.
The images are transmitted at an open channel ISM band and can interrupt other signals that may be on that band (such as a WiFi router) or be interrupted by the signal of a higher power device.
If the signal is interfering with another device, you can move the video signal to a a clearer channel using the Channel buttons on the back side of the remote controller.
There are 7 available channels you can use (CH1, CH2, CH3, CH4, CH5, CH6 and CH7).

A Short Press of the CH+ button will switch the channel to the next higher channel.

A Short Press of the CH- button will switch the channel to the next lower channel.

9、Charging the Battery
To charge the Remote Controllers internal battery, plug the power adapter charging cable into the Micro USB port, then plug the AC cable of the power adapter into a wall outlet.
The battery charge indicator LEDs will be red to indicate charging. The indicator LEDs will change to green when charging is complete.

10、Remote Controller Analog Channel Calibration
The Hornet S supports 13 channels, including 6 analog channels (for sticks and dial wheels). Each of the 6 channels can be calibrated by the user.
To calibrate the analog channels you must connect the Remote Controller to a computer using the Micro USB port. Once connected, turn the Remote Controller power ON and open the Hornet S ground station software.

Picture 4-1 Ground station remote control settings interface

Use the Remote Control to select the channel you wish to calibrate, then click the Start button to begin the calibration procedure.

ATTENTION!
Do not move the Remote Control sticks or dial wheels before starting the calibration procedure.

When the calibration process begins, the LED indicator will turn green and begin to flash. Do not press any button or switch at this time! When the LED indicator turns red and begins to flash, push each stick fully left and then fully right. Move each dial wheel from minimum to maximum.

When calibration is complete the Remote Controller will return to normal function. If calibration is not successful (typically because one of the channels is accidently omitted) then you will need to perform calibration once again.

11、Binding A Hornet S to a Remote Controller
The Hornet S and Remote Controller are bound together as a working pair when you receive them. However, you can bind additional Hornet S aircraft to the same remote controller in this way:
1. Turn the Hornet S and Remote Controller Power OFF.
2. Press and hold the Return to Home and Take Off/Land buttons.
3. Turn the Remote Controller power ON
4. Turn the Hornet S power ON
5. When the LED indicator on the Remote Controller turns Green, the Hornet S is successfully bound to the Remote Controller.

12、Software Update
You can use your computer and the Hornet S PC software to check for Remote Controller software updates that may be available from JYU. If a new software version is available, you may load it on to your Remote Controller in this way:
1. Connect the Remote Controller to your PC using the supplied Micro USB cable.
2. Open the Hornet S software on your PC.
3. Click on the Remote Controller Firmware update button. The LED indicator will flash yellow to indicate the software is being downloaded.

PC software firmware update interface

If the Ground Station Software won't update the Remote Controller for some reason, please try this second option:
1. Turn the Remote Controller OFF and unplug the Micro USB connector.
2 Press and Hold the LED indicator button.
3. Turn the Remote Controller Power ON. The LED indicator will flash yellow.
4. Connect the Remote Controller to the PC using the Micro USB cable.
5. Click on the Remote Controller Firmware update button.