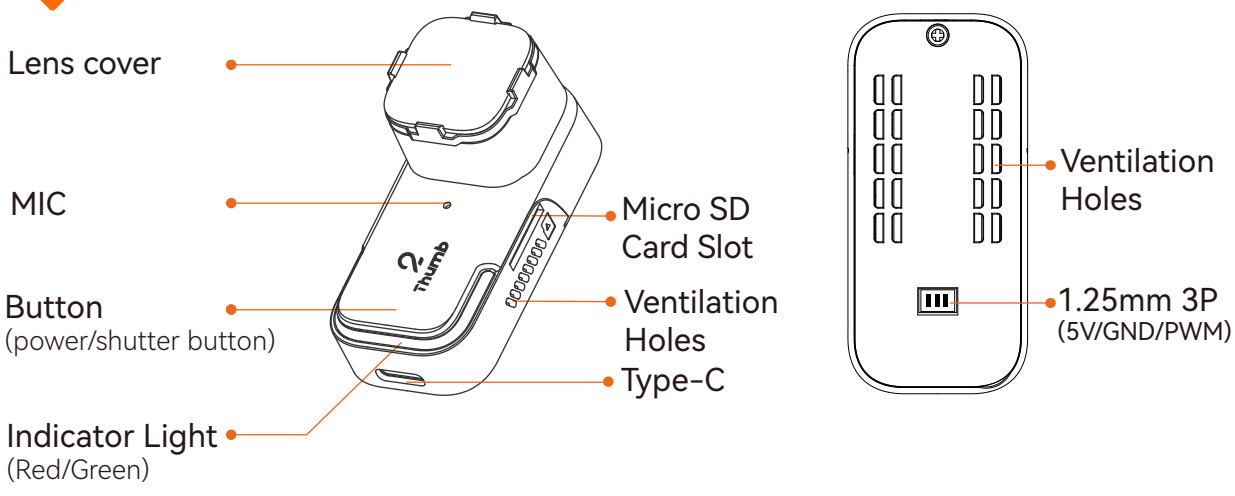
RunCam



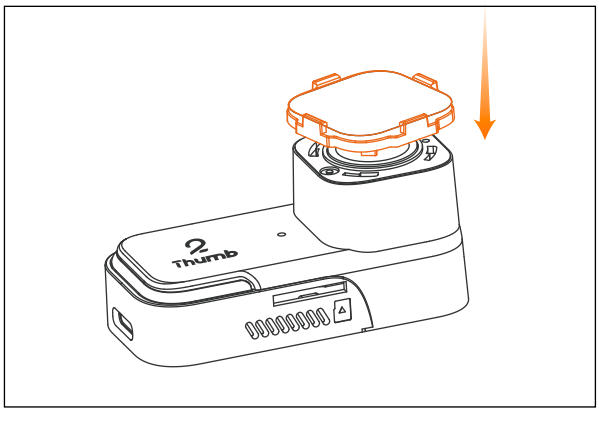
Thumb 2

Camera Manual

01 Overview

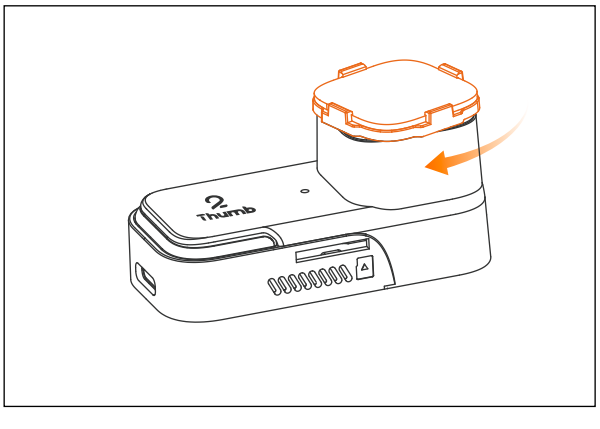


02 Lens Cover



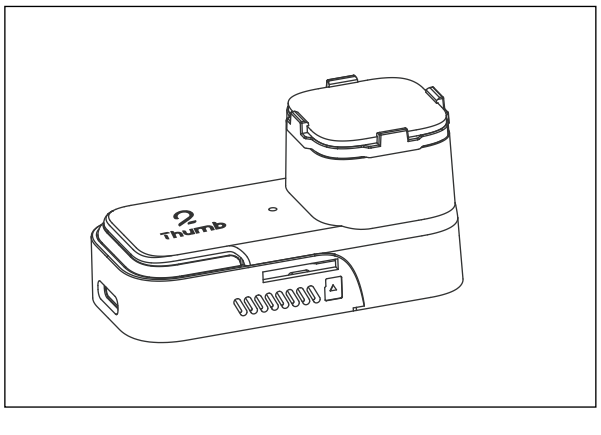
Step 1

Align the lens cover to the mounting holes



Step 2

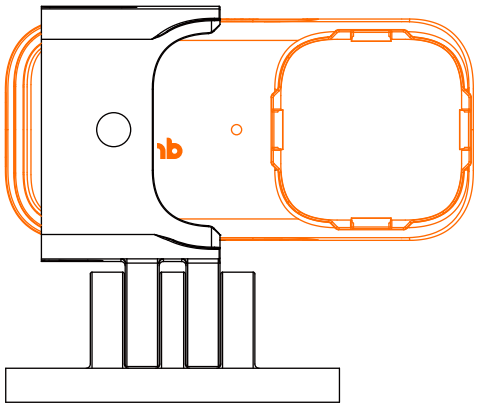
Rotate the lens cover to the left to lock it.

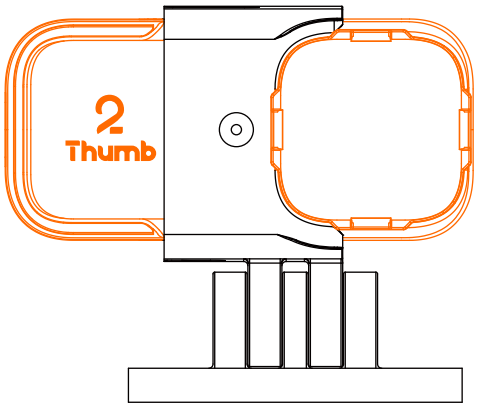


Step 3

Finished

03 Camera Mounting

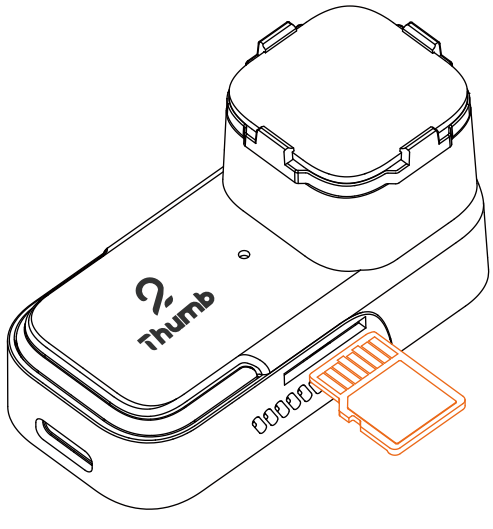




04 Micro SD Card

MicroSD U3 card is recommended (4K@60FPS/4K@30FPS/ 2.7K@60FPS/1080P@120FPS requires U3 or above)

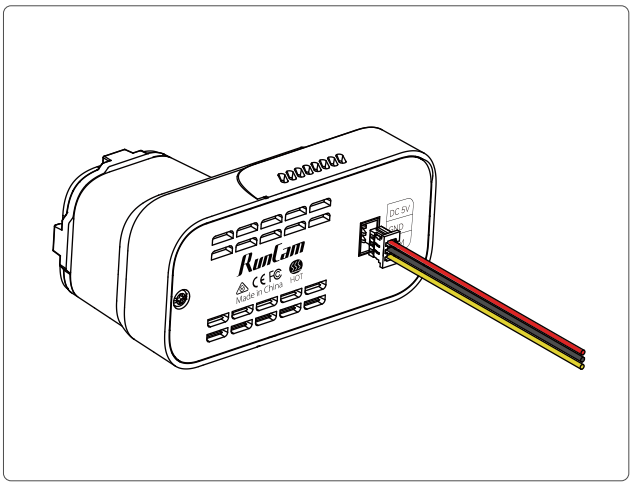
Capacity of card is supported up to 512GB and above.



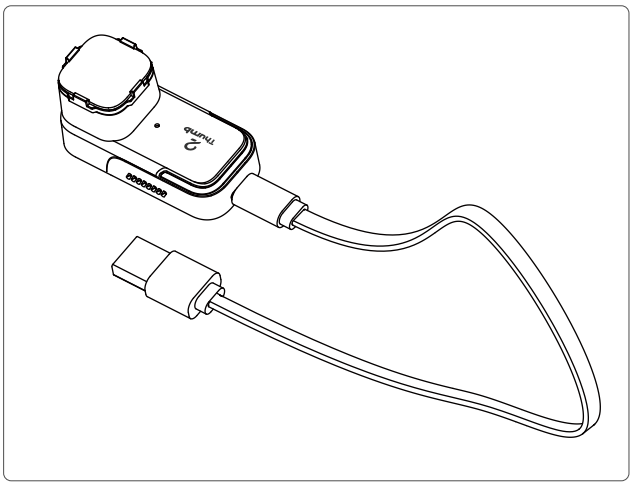
Notice:
Use carefully when handling memory cards. Avoid liquids, dust, and debris. As a precaution, please power off the camera before inserting or removing the card. Check manufacturer guidelines regarding use in acceptable temperature ranges.

05 Power Supply

Thumb2 supports terminal power supply and Type-C power supply, and the power supply voltage only supports DC 5V.



Power Supply from BEC (5V)

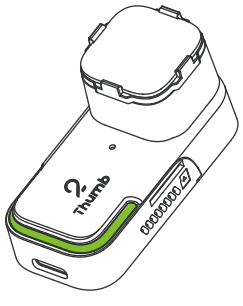


Power Supply from Power Bank

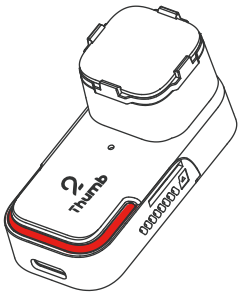
06 Basic Operations



Power on/Power off



Green light



Red light

Power on/Power off	—Long press Power/Shutter button, light blinks green for 3 seconds and turns to solid red, camera powers on. —Long press Power/Shutter button, light goes off, camera powers off.
Start/Stop Recording	—Short press Power/Shutter button, camera starts recording, light blinks red slowly. —Short press Power/Shutter button, camera stops recording, light turns to solid red.
Switch Modes	—Double press Power/Shutter button, camera changes to QR configuration mode, light turns to solid green. —Double press Power/Shutter button, camera quits QR mode, light turns to solid red.
QR Code Configuration Mode	Scan QR code via RunCam Legacy App 1. Applying succeeds, light turns to solid red 2. Applying fails, light stays solid green
Remote Control Mode	Connect Thumb 2 to a PWM pad of FC to configure
Micro SD Card Error	Red light flashes quickly
Sensor Module Error	Green light flashes quickly

07 Configuration Setting



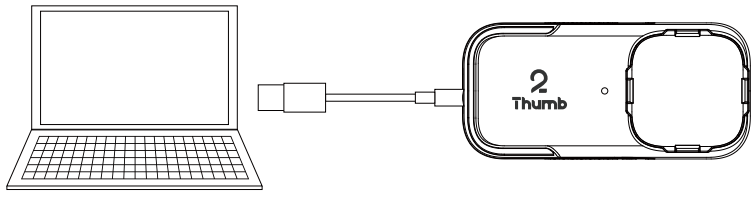
optimum distance: 25cm

- Go to RunCam Legacy App to select Thumb 2
- Configure the setting and generate a QR code
- Power on the camera, double press the button to switch to scanning mode, light turns to solid green
- Use camera to scan the QR code generated on RunCam Legacy App, light turns to solid red when camera scans successfully

08 PC Connection

When connected to a computer via Type-C, if the camera is identified as a USB disk upon startup, press the button to switch to UVC mode.

Notice: If PC cannot recognize successfully, please check if a Micro SD card is inserted well; Please change USB cable or USB port to retry if accessing to files inside Micro SD card fails.



09 Firmware Update

For camera's best performance, please use the latest firmware.Updating method:
https://www.runcam.com/download/Thumb2

Camera firmware update status: red and green light flash alternately, and camera shuts off automatically when the update is finished.

10 Remote Control

Type-C Control cable instruction

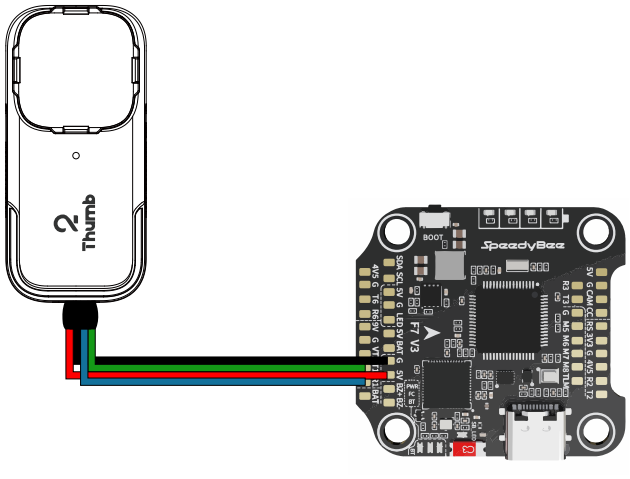


- **Power wire**
  It supports external power input of DC 5V.
- **Ground**
  Power ground wire / Remote control signal ground wire
- **TX**
  It can be soldered to a R3 pad or other spare UART of Flight Controller to achieve remote control for camera.
- **RX**
  It can be soldered to a T3 pad or other spare UART of Flight Controller to achieve remote control for camera.

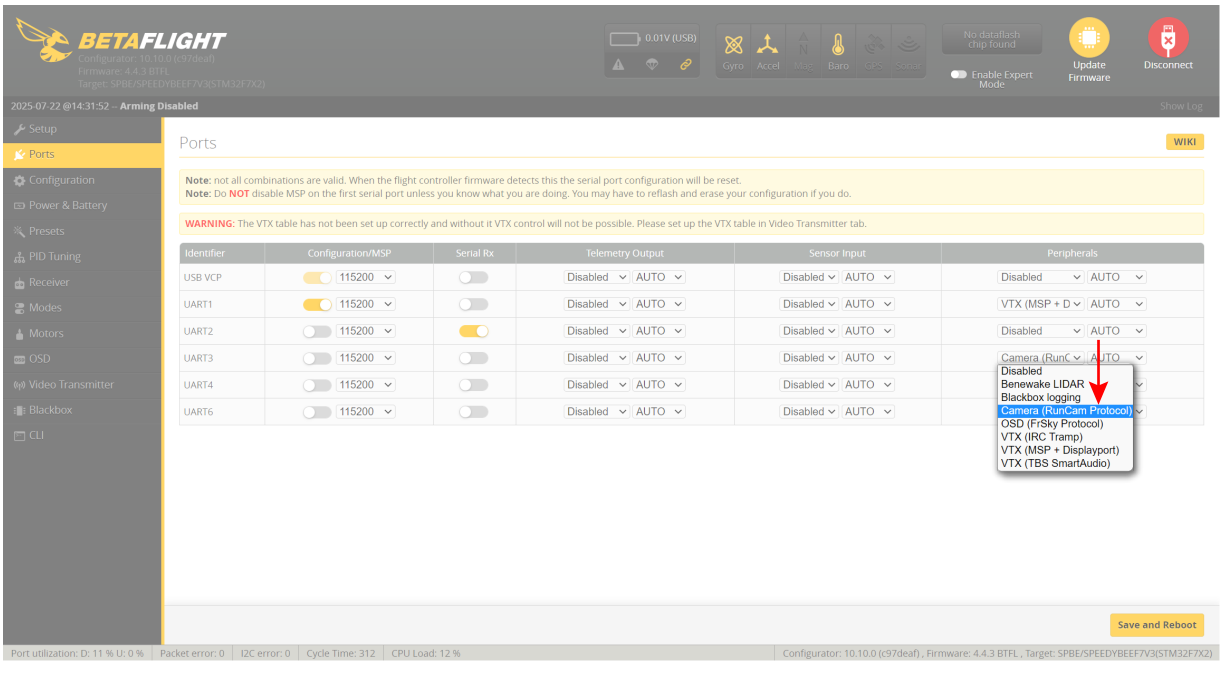
Remote Control via UART (Recommended)

Here we take Flight Controller Speedy Bee-F7 for an example

- Solder the wires of TypeC control cable to the pads on Speedy Bee F7 V3, with Power wire to 5V pad, GND wire to GND pad, Tx wire to R3 pad and Rx wire to T3 pad.

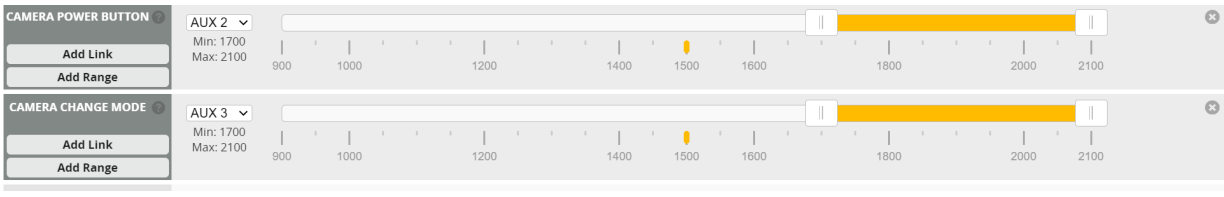


- Use BetaFlight to configure, setting the UART3 of SpeedyBee F7 V3 as RunCam device.



- Configure at Modes

Find the Modes tab at the BetaFlight, and locate the CAMERA CONTROL. Set values correspondingly (select AUX by yourself), and the range is 1700-210.



- Assign the channels to the switch of the controller

Please choose your Model on the controller, then access to the MIXER interface and assign the channel to the switches. Here we take Radiomaster TX12 as an example, assigning the channel CH5 to SE position.



- Test

After above steps, configure the Thumb 2 to power on automatically via the RunCam Legacy App first, and connect Thumb 2 to FC, then power up the "SpeedyBee F7 V3" flight controller:

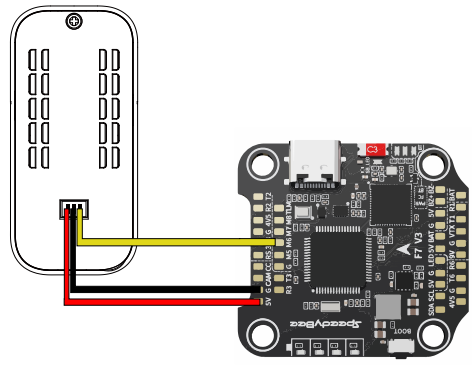
· With the SE switch initially in the middle position, toggle the SE switch to the bottom position, Thumb 2 starts recording.

· While the Thumb 2 is recording, to stop recording, toggle the SE from the middle position to the bottom, then quickly return it to the middle (middle → bottom → middle).

PWM Remote Control

Here we take Flight Controller Speedy Bee-F7 for an example

- Solder the JST 1.25*3pin wires to the pads on Speedy Bee F7 V3, with
Power wire to 5V pad,
GND wire to GND pad,
PWM wire to M6 pad.



- Configure M6 at CLI mode

· Connect the flight controller to BetaFlight and enter the CLI interface

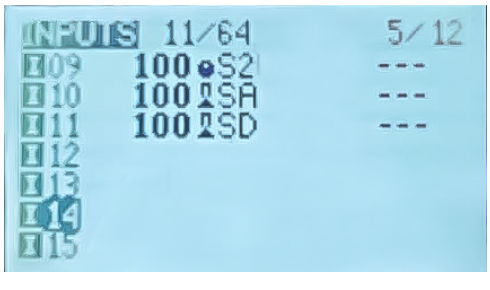
· Type in resource to proceed, and type the command as below

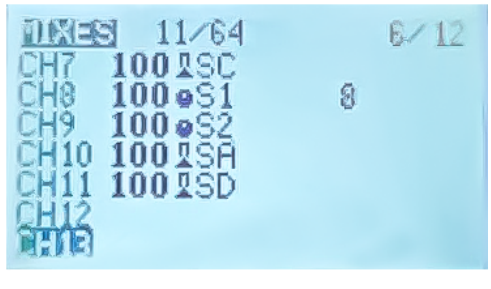
```
# resource motor 6 none
# resource pinio 2 B05
# set pinio_config = 129,129,1,1
# set pinio_box = 0,41,255,255
# save
```

Test method one (recommended)

- Assign the channel to the switch of the controller

  Please choose your Model on the controller, then access to INPUT and MIXER interface, and assign the channel to the a button. Here we take Radiomaster TX12 as an example, assigning the channel CH10 to SA button.





- Configure at Modes

  Navigate to the Modes tab at the BetaFlight, and find Mode USER2. Here we take AUX6 as an example to configure.



- Control the camera via radio controller
  - With camera on, short press SA button on TX12, camera will record.
  - When recording, short press the button to stop recording. With camera on, double press SA button on TX12, camera will take a photo.

Test method two

- Assign the channel to a switch of the controller

  Please choose your Model on the controller, then access to the MIXER interface and assign the channel to a switch. Here we take Radiomaster TX12 as an example, assigning CH7 to SF position.

- Configure at Modes

  Navigate to the Modes tab at the BetaFlight, and find Mode USER2. Here takes AUX3 as an example to configure.



- Control the camera via radio controller

  Set the SF position in the middle by default, toggle it to bottom. Toggle once, camera will start/stop recording.
  Note:
  one-time toggling means the SF position moves quickly from middle to bottom and goes back to middle, generating an effective command.

11 App Download

Please search “RunCam” in Google Play or Apple Store to download, or download the App on the official page.

Download

Product Support

12 Product Support

Notice: camera will shut down when its temperature reaches 96℃. Recording lasts about 10 mins at 4K@60fps or a still status, or camera shuts down out of protection. Please cool the device or reduce resolution for long-time recording. In-flight recording is not subject to this limitation.
Please visit:
https://support.runcam.com/hc/en-us

13 Micro SD Card

Mode	Runcam Thumb 2
Sensor	IMX586 (4800MP)
Resolution	4K: 3840x2160@30/30(4:3)/60(xv)/60fps, 2.7K: 2688x1512@60(4:3)/60fps, 1440p: 1920x1440@60fps, 1080p: 1920x1080@60/60(xv)/120fps
Video Format	MP4
Gyro	Bulit-in
Communication Interface	Type-C
Micro SD Card Capacity	Max 512G
Operating voltage	**DV 5V(Only)**
Power Interface	JST 1.25 / USB-C (USB-A to USB-C Cable)
Remote Control	PWM/UART
Power Consumption	Max 700mA@5V
Dimension	26mm*27.5mm*55mm
Net Weight	27g