GREMSY

USER MANUAL

Version 1.3 | August 23th, 2022

REVISION HISTORY

REVISION	DATE	DESCRIPTION
1.3	August 23th, 2022	User Manual

LEGEND

NOTE

Notes are used to highlight special operating conditions or steps of a procedure.

WARNING

Warnings are used to highlight procedures which, if not strictly observed, may result in personal injury or loss of life.

TIPS

Tips.

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GETTING STARTED

INTRODUCTION

Pixy SM is specially designed to integrate the leading professional M300 RTK drone with the full-frame mirrorless Sony α7R IV camera, offering an unbeatable combination for precision aerial mapping missions.

FEATURES

PLUG & PLAY WITH M300 RTK

Utilizing the built-in advanced processing module, integrating with M300 RTK is quick and straightforward within seconds.
Just mount, connect, and you're ready to go.

FULLY COMPATIBLE WITH SONY A7R IV

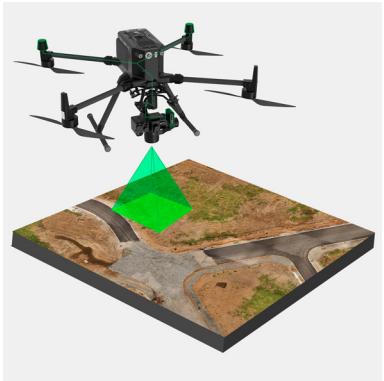
Pixy SM is optimized to work perfectly with the 61-megapixel Sony α7R IV, ensuring that you can get high-resolution imagery for creating accurate maps.

NOTE

Supported lens:
28mm - SEL28F20
35mm - SEL35F28Z
55mm - SEL55F18Z

BUILT FOR MAPPING

In concert with M300 RTK and Sony α7R IV, Pixy SM brings out the best-ever-grade mapping solution for geospatial experts.



HEATED & TEMPERATURE CONTROLLED IMU

Heated and temperature controlled IMU sensor allows reliable performance even in extreme weather. Temperature is maintained within 0.2 degrees Celsius accuracy.

HIGH PERFORMANCE GIMBAL CONTROLLER & IMAGE PROCESSOR

Advanced gimbal controller designed and made by Gremsy based on a 32 bit high performance ARM microprocessor providing fast response and accurate calculation. Combine with high performance data & image processor that allow to process the image and GPS data as highest accuracy during mission.

SPECIFICATIONS

Product Name	Pixy SM
System Type	3-Axis Digital Gyro-Stabilized
Weight	1.26lbs/ 570g
Payload	Sony α7R IV
Lens Compatibility	SEL28F20 | SEL35F28Z | SEL55F18Z
Construction	All Aluminum
Operating Power	13.7V
Working Current	Static Current 400mA @13.7V Dynamic Current 800mA @13.7V Locked Motor Current Max 4.0A @13.7V
Connetion	DJI Skyport 2.0 / UART / USB-C
Drone Flatform Supported	DJI M300 RTK
OS Platform Supported	Windows / Mac
Pan Range	±160°
Tilt Range	+135° to -45°
Roll Range	±25°

PIXY SM I/O CONNECTORS

GIMBAL CONNECTION

- **HDMI**: to output video from the camera (not available now)

Connector type: micro HDMI

- **CTRL**: CTRL is a serial protocol (UART) port which is used to interface with Sony A7R IV via USB C port.

Connector type: JST SM10B-GHS-TB(LF)(SN)

- **USB-C**: to interface with computer or upgrade firmware

Connector type: USC type C

- **Device Switch**: to switch between gimbal and SOM for firmware upgrading

Connector type: 2 level switch

- **Micro SD card**: to insert the micro SD card for Geo data storage

Connector type: Micro SD card

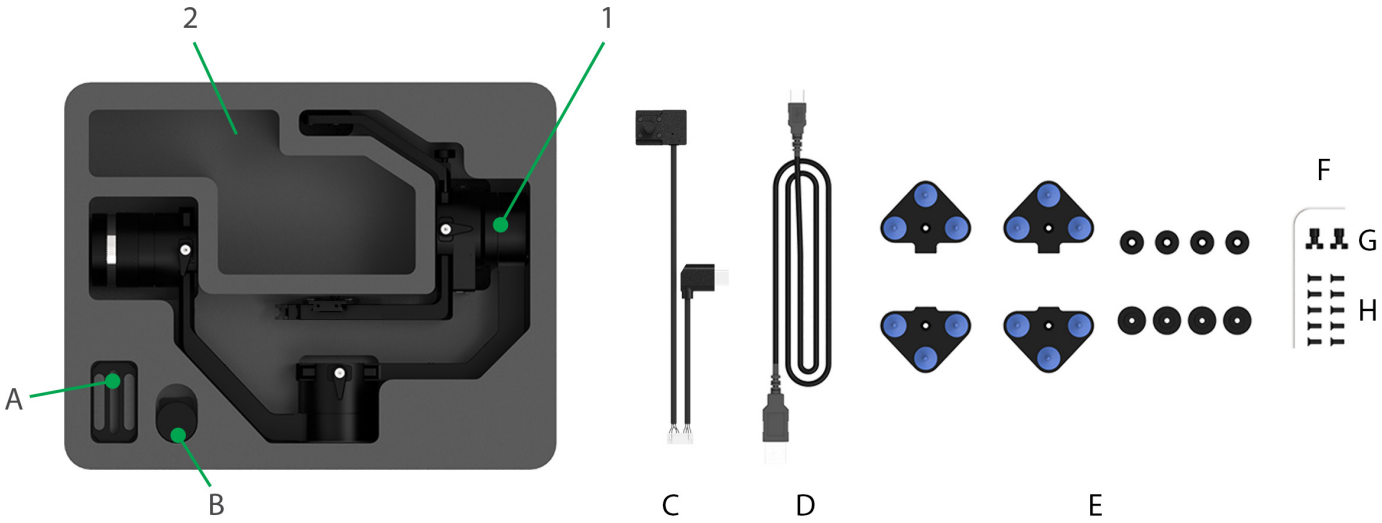
Note: Recommend SD Card from 30GB, at least 50MB/s read/write speed

GIMBAL BUTTONS

- **Boot**: to push the firmware during upgrading process

- **Reset:** to reset the system in case needed

WHAT'S IN THE BOX

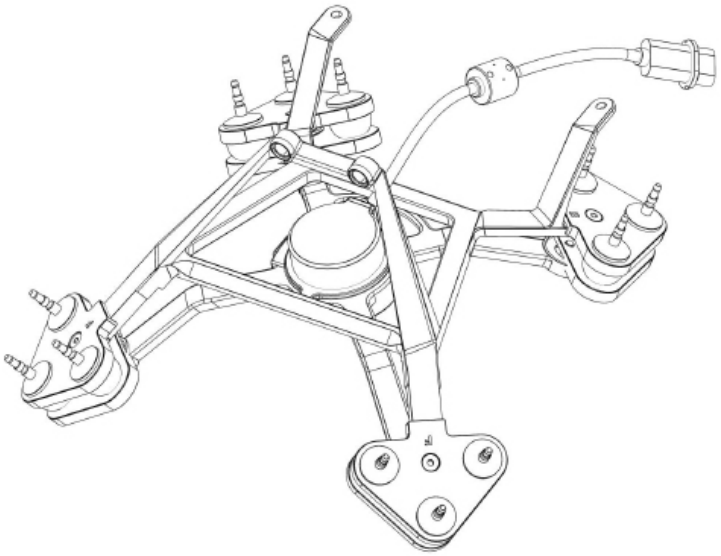


1. PIXY SM GIMBAL

2. PIXY SM ACCESSORIES

A. Camera Plate	x1	E. Pixy SM Damping Extension	x1
B. Hot-shoe	x1	F. Allen Key 2.0mm	x1
C. Hotshoe & USB Camera Cable	x1	G. Camera Screws	x2
D. USB Type-C Cable	x1	H. M3 x 8 Screws	x10

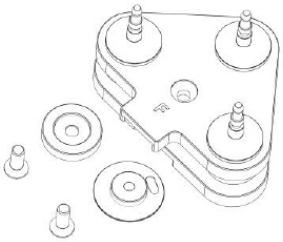
DAMPING INSTALLATION



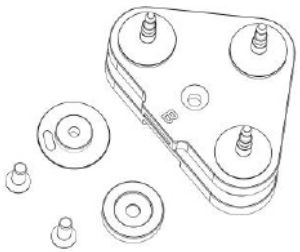
Components required:

- DJI Standard damping on M300 RTK to interface with computer or upgrade firmware.
- Gremsy - Damping extension for Pixy SM

What's in the box of the damping extension?



F - Adapter bundle x2



B - Adapter bundle x2

ASSEMBLY INSTRUCTIONS

- **STEP 01:** Separate the standard damping from the M300 RTK.

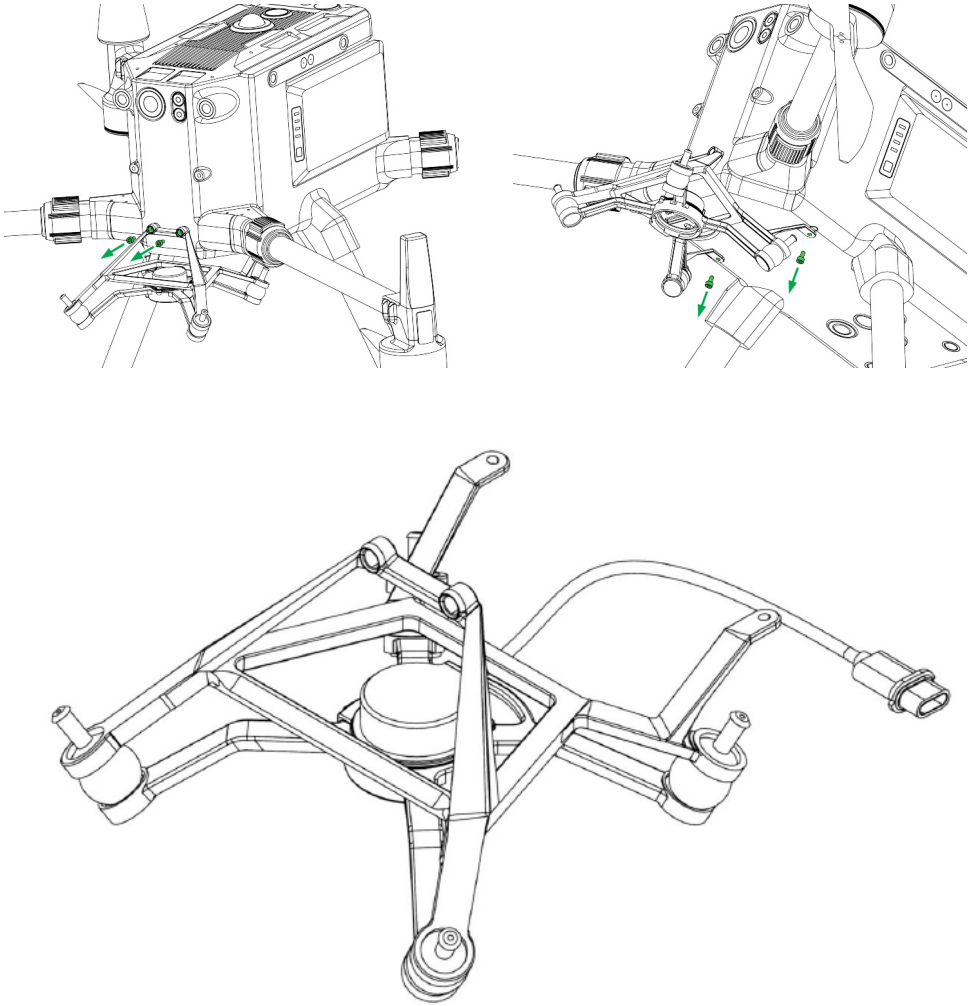
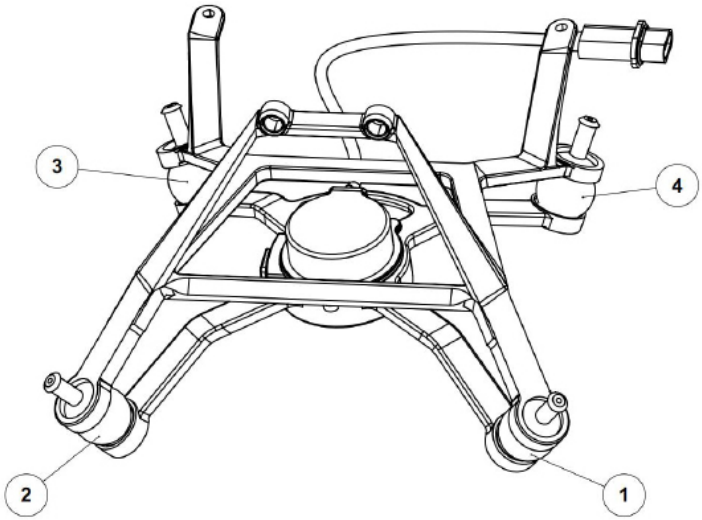
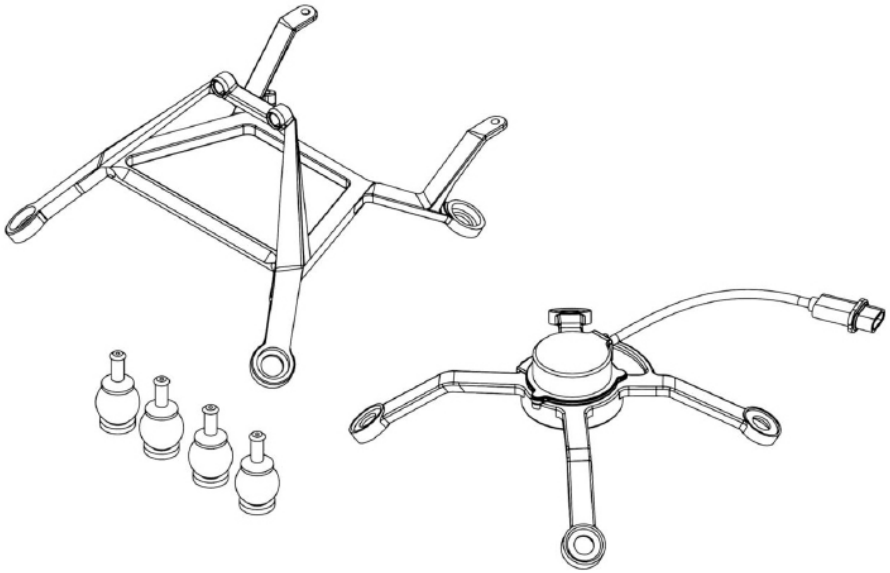


Fig 1. The standard damping after separation

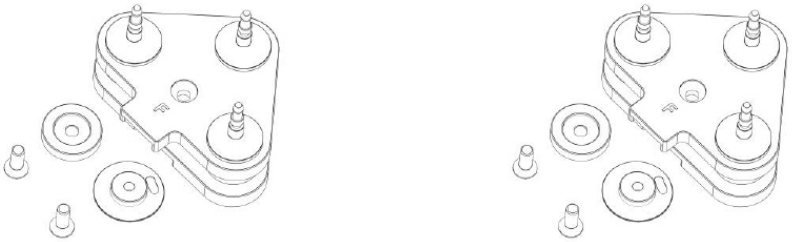
STEP 02: Note the marked position of the standard damping as below.



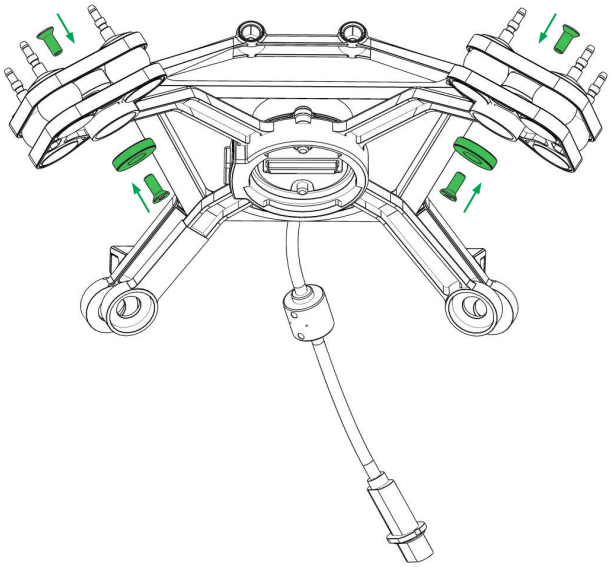
STEP 03: Remove silicone balls from the standard damping.



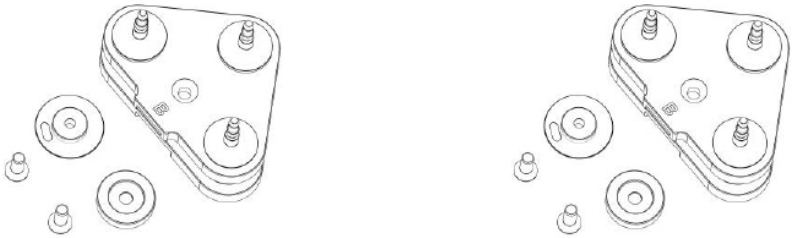
STEP 04: Assemble the “F adapter bundles” into the “position 1 & 2” as marked in step 2.



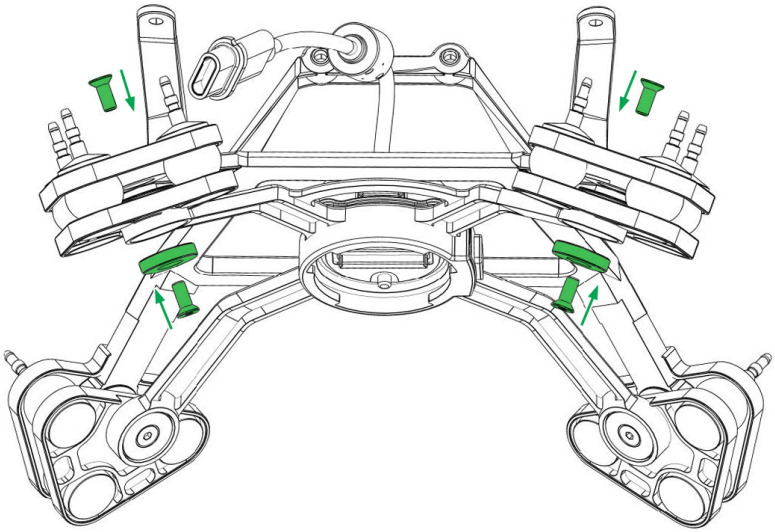
F adapter bundles



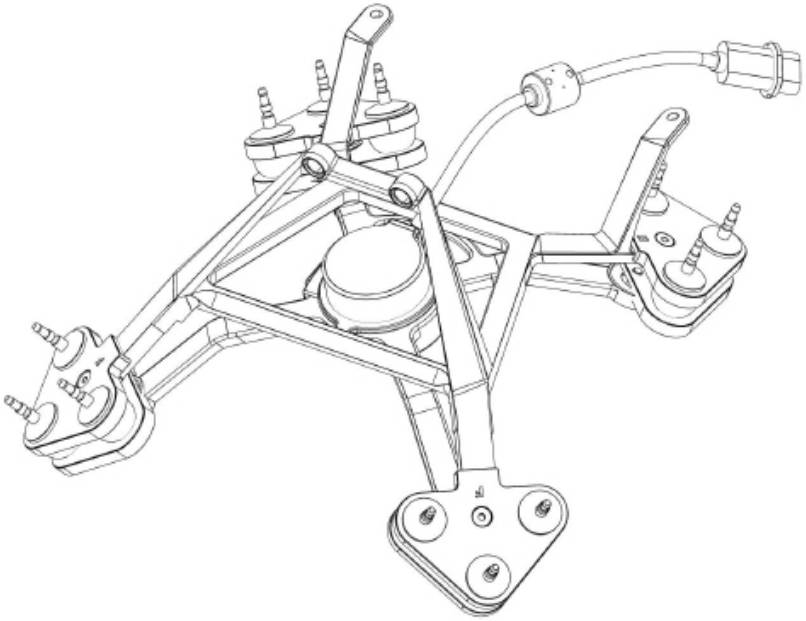
STEP 05: Assemble the “B adapter bundles” into the “position 3 & 4” as marked in step 2.



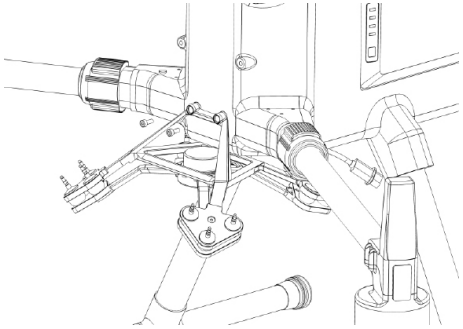
B adapter bundles

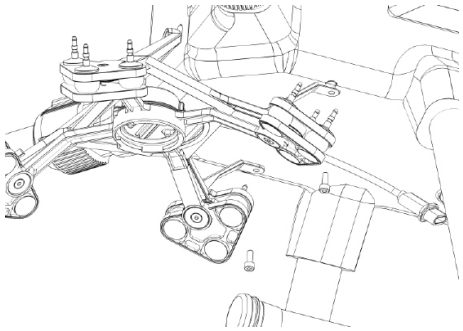


STEP 06: Complete the damping for Pixy SM.



STEP 07: Mount the damping on M300 RTK and ready for use with Pixy SM.





NOTE

Power off the DJI M300 before installing the Pixy SM and camera. Power on only when you have completed all connection steps. See details below.

QUICK RELEASE CONNECTION

CONNECT

- **STEP 1:** The marks on the top part and bottom part must be aligned.
- **STEP 2:** Keep everything aligned and attach the bottom part to the top part.
- **STEP 3:** Rotate the bottom counter-clockwise until the mark on the ring aligned with the locked icon.

DISCONNECT

- **STEP 1:** Press & hold the release button.
- **STEP 2:** Rotate the bottom clockwise.
- **STEP 2:** When the mark on the top aligned with the unlock icon on the bottom, the PIXY SM can be detached from the top part of the Quick Release.

STATUS LED INDICATOR

STATE	LED STATUS	DESCRIPTION
01	Blink	Video Transmission Error
02	Solid	System Error (Camera, Gimbal, SOM)
03	Blink	Camera Not Found
04	Blink	System Ready
05	Blink	Gimbal Not Found

DISPLAY REAL-TIME DATA

STATE	SYSTEM STATUS	DESCRIPTION
01	READY	Ready to flight
02	ERROR	System Error (Camera, Gimbal)
03	CAM ERROR	Camera Not Found
04	GMB ERROR	Gimbal Not Found
05	SOM ERROR	Video Transmission Error

WORKING OPERATION

PIXY SM ONLY SUPPORTS BOTTOM MOUNT OPERATION

At this time, the Pixy SM only support for the bottom mount beneath the DJI M300 RTK
The gimbal must be used with right damping extension and rubber type.

BALANCING

To achieve the best performance from the PIXY SM, proper balancing is necessary. Accurate balance is critical in shots where the gimbal will be subjected to extreme movements or accelerations. There are 3 axes that need to be precisely balanced prior to powering up the gimbal.

MOUNTING THE CAMERA

Use a 1/4”-20 screw to secure the camera to the camera tray, then put the camera to the tilt cage

CAMERA CABLE CONNECTION

Step 1: connect to the CRTL port on Pixy SM

Step 2: connect to the USB-C port and Hotshoe port on Sony A7R IV camera.

NOTE

Note: make sure the Hotshoe connection is tighly.

TILT AXIS FRONT-BACK BALANCE

When the proper front-back balance is achieved, the camera will stay level when you remove your hands.

1. Loosen the thumbscrew underneath the camera tray and the top bar knob. Then, gently slide the camera forward or backward until the tilt axis remains level.

2. Tighten the thumbscrew and knob to lock the camera and camera tray in position.

TILT AXIS VERTICAL BALANCE

When the proper vertical balance is achieved, you can rotate the camera in any angle and it will stay at that position.

1. Rotate the tilt axis so that the lens is pointing upward.Then, loosen vertical adjustment thumbscrew, gently slide the camera mount crossbar forward and backward until the camera remains pointing upward when released.

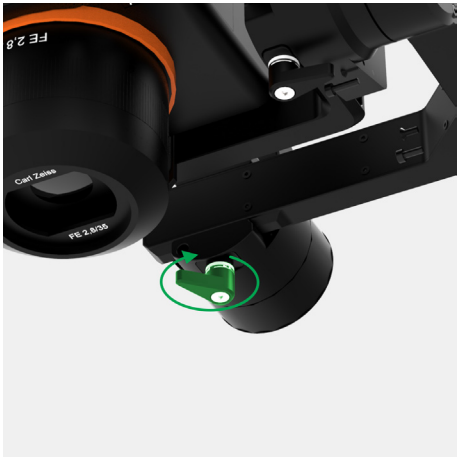
2. Tighten the thumbscrew. Sometimes, the vertical balance could not be achieved, the front-back balance should be re-checked in this case.

ROLL AXIS BALANCE

When the proper left-right roll balance is achieved, the camera will stay level when you remove your hands.

1. Loosen the thumbscrew underneath the roll bar, then gently slide the roll bar left or right until roll axis remains level.

2. Tighten the thumbscrew to lock the roll bar in position.



PAN AXIS BALANCE

Tilt the gimbal about 20 degrees from the verticality, identify if the gimbal is front heavy or back heavy. Slide the pan axis slider until the camera does not swing.

1. Loosen the thumbscrew, then gently slide the pan axis slider backward/forward until it doesn't swing and stay at any given position when released.

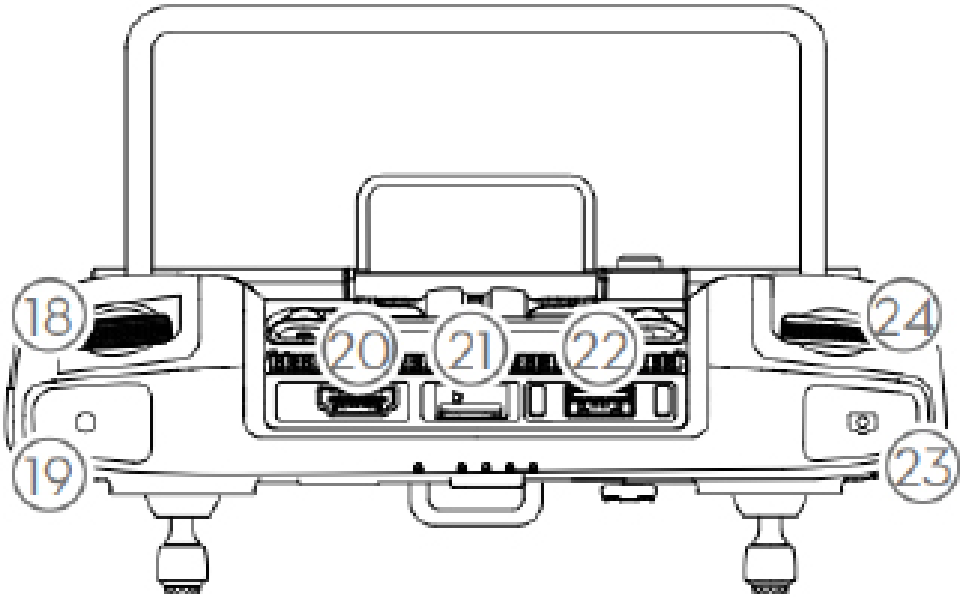
2. Tighten the thumbscrew to make sure pan axis slider is locked in position.

GIMBAL

After the camera is balanced on the Gremsy, it’s time to configure some parameters for best performance.

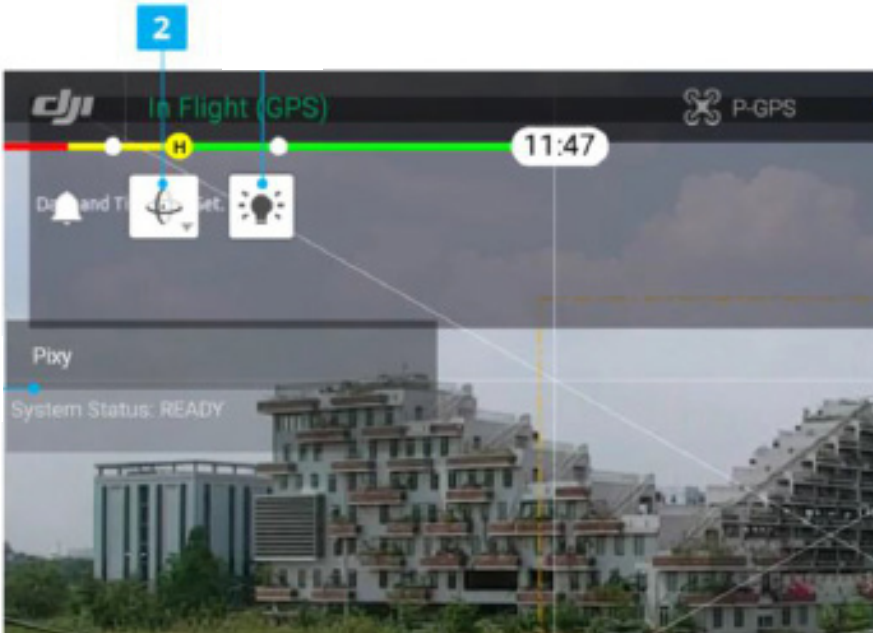
OPERATING THE GIMBAL

The DJI Smart Controller Enterprise supports two buttons: Gimbal Pan Control Dial and Gimbal Pitch Control Dial to control Pan and Pitch of the Gimbal. Besides, widgets are shown on the screens.



- **LEFT DIAL (18)** controls the gimbal Pitch. Turn the dial to the right and the gimbal will shift to point upwards. Turn the dial to the left, and the gimbal will shift to point downwards. The camera will remain in its current position when the dial is statc.

- **RIGHT DIAL (24)** controls the gimbal Pan. Turn the dial to the right. And the gimbal will shift clockwise. Turn the dial to the left, and the gimbal will shift counterclockwise. The camera will remain in its current position when the dial is static.



Gimbal Orientation Adjustment (2): Tab to select the Gimbal Orientation Adjustment as Gimbal Recenter, Recenter Gimbal Yaw, Gimbal Yaw Downward or Gimbal Downward.

GIMBAL SETTINGS

Here you can adjust how your gimbal moves

GIMBAL MODE

There are 2 choices Free-mode and Follow mode

- Follow Mode: Yaw will follow the aircraft heading.
- Free Mode: Meaning the gimbal can move independently of the aircraft's yaw. In this mode, even if the aircraft yaw changes, the gimbal will ignore the movement of aircraft.

GIMBAL PITCH SMOOTH START/STOP

Smooth factor for gimbal controller, using to smooth control. The larger the value, the smoother gimbal movement is (higher latency response).

MAX GIMBAL PITCH SPEED

This controls the max speed percentage at which the gimbal pitch. A higher value means a faster-moving gimbal and a lower value means a slower gimbal.

GIMBAL YAW SMOOTH START/STOP	Smooth factor for gimbal controller, using to smooth control. The larger the value, the smaller the acceleration of gimbal.
MAX GIMBAL YAW SPEED	This controls the max speed percentage at which the gimbal yaw. A higher value means a faster-moving gimbal and lower value means a slower gimbal.

STIFFNESS TUNING

Stiffness setting has a significant impact on the performance of the gimbal. This setting adjusts the degrees the gimbal tries to correct for unwanted camera movement and hold the camera stable.
The higher you can run the setting without vibration or oscillation, the better it is.

GENERAL METHOD

Start with a low value of 20 for all axes, then turn the motors ON. Slowly increase this setting until you feel an oscillation in each axis, then reduce it until the oscillation subsides. You can touch the camera to feel the oscillation during tuning. Increase the stiffness setting 5- 10 points until oscillation appears, then reduce 5 points until oscillation subsides.

STEP 01 - TILT STIFFNESS

Slowly increase this setting until you feel an oscillation in the tilt axis, then reduce the setting until the oscillation subsides. Make sure there is no vibration when tilting the camera up and down and when moving the gimbal in any orientation.

STEP 02 - ROLL STIFFNESS

Slowly increase this setting until you feel an oscillation in the roll axis, then reduce the setting until the oscillation subsides. Pick the gimbal up and make sure there is no vibration when you move the gimbal around.

STEP 03 - PAN STIFFNESS

Slowly increase this setting until you feel an oscillation in the pan axis, then reduce the setting until the oscillation subsides. Tilt the gimbal about 20 degrees from the verticality and make sure that no vibrations are presented.

HOLD STRENGTH

For heavy cameras, it's suggested to increase hold strength for each axis by around 10% than
the default values. This option is only recommended for advanced users

GAIN

Defines how fast each axis will return to commanded position. To reload default expert settings just press "Default" in the expert menu.

DEFAULT SETTINGS

HOLD STRENGTH	TILT	ROLL	PAN
	40	40	40
GAIN		120	
AUTO POWER ADJUSTMENT: **ENABLED**			

FILTER

The purpose of the filters is to eliminate noise and vibration due to structural resonances in the camera, lens, or gimbal.

Setting the filters too high or too low can cause signal disturbances that can reduce the overall stabilization.

GYPRO FILTER

Defines the strength of the filter applied to Gyro sensor output. If the gimbal has oscillations that cannot be corrected by adjusting stiffness settings, the Gyro Filter is used to further tune the gimbal and remove the oscillation.

OUTPUT FILTER

Defines the strength of the filter applied to motor output. If the gimbal has oscillations that cannot be corrected by adjusting stiffness settings, the Output Filter is used to further tune the gimbal and remove the oscillation.

Vibration. If the gimbal is vibrating at a high frequency after tuning, increase the filter values.
Oscillation or rocking. If the gimbal is oscillating or rocking at a low frequency after tuning, decrease the filter values.

GYRO FILTER

Gyro Filter	2
Output Filter	6

OTHERS GIMBAL PARAMETERS

SPEED	Defines how fast camera will follow the movement.
SMOOTH	Smooth out the camera movement by adjusting this parameter. The higher the value is the smoother camera moves but at the expense of more delay in following the movements.
WINDOW	When the movement is out of the window zone, the camera starts to move. Within the window zone, the camera maintains its direction.
TILT LOCK	When the movement is out of the window zone, the camera starts to move. Within the window zone, the camera maintains its direction.
ROTATION LIMIT	If this option is selected, the tilt axis will maintain its angle and only be controlled by remote control.
UP LIMIT	Travel of Tilt and Roll axis can be limited using UP LIMIT and DOWN LIMIT. The Pan axis keeps the ability to pan 360 degrees itself.
DOWN LIMIT	Set the up limit for Tilt or Roll axis (in 1 degree unit). The default values are -90 for Tilt and -45 for Roll.
WINDOW	Set the down limit for Tilt or Roll axis (in 1 degree unit). The default values are 90 for Tilt and 45 for Roll.

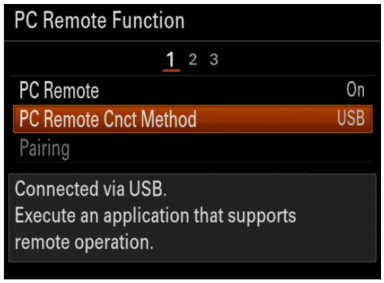
CAMERA SETTINGS

CAMERA SETTINGS

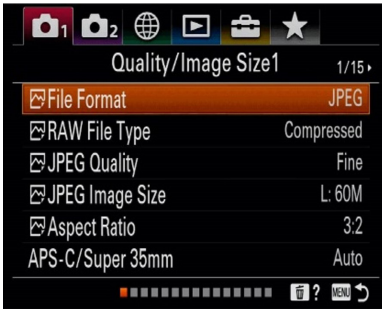
1. Connect the Hotshoe & USB camera cable to the Camera and Pixy SM
2. Insert the gimbal memory card into the slot under the bar of the tilt axis.
3. Insert the camera memory card into the slot of the camera.

4. Set the camera mode to M – manual mode.
5. Set the exposure compensation “0“

6. Click the camera menu button. Then select the Network and enable the PC remote function.
7. Click the camera menu button. Goto Network -> PC Remote Function -> PC Remote Cnct Method and choose USB



8. Go to File Format to choose the image format



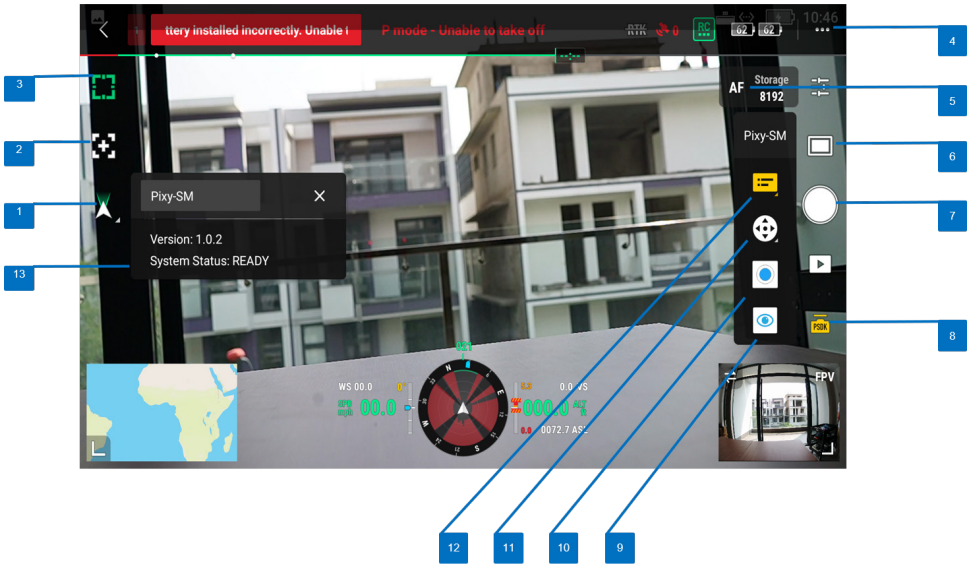
NOTE

Check the status light and message on the DJI pilot app in case of error.

TIPS

GPS log file only creat when doing the mapping mission, flight attitude above 50 meters.

DJI PILOT SETTINGS



[1] Gimbal Orientation Adjustment
Gimbal Re-center
Re-center Yaw
Gimbal Downward
[2] Hidden/Show Zoom setting (Not supported yet).
[3] Switch Focus/Meter Spot mode. (Meter Spot is not supported yet).
[4] Configuration for Gimbal and Camera.
[5] AF/MF Focus mode Switch.
[6] Shooting Mode (Burst mode is not supported yet).
[7] Capture / Record button.
[8] PSDK – Pixy SM settings (choose to show numbers below).
[9] Enable/Disable live-view switch.
[10] Power On/OFF Gimbal switch.
[11] Virtual Gimbal Joystick.
[12] Hidden/Show Floating Window.
[13] Real-time Status.

CAMERA CONFIGURATION NOTES

1. On the Pilot app, choose AF/MF to set the focus mode. Recommend choosing MF (Manual Focus) for the mapping mission.

2. Go to Payload Settings to configure the camera settings.

3. Configure ISO
- Auto will allow adjusting the exposure compensation.
- Fixed ISO will not allow adjusting the exposure compensation.
- Recommend using ISO Auto.

4. Set the exposure mode as M_Manual

5. Shutter Speed:
- Can set from 1/1000 to 1/1500.
- Recommend using 1/1250 for best image quality.

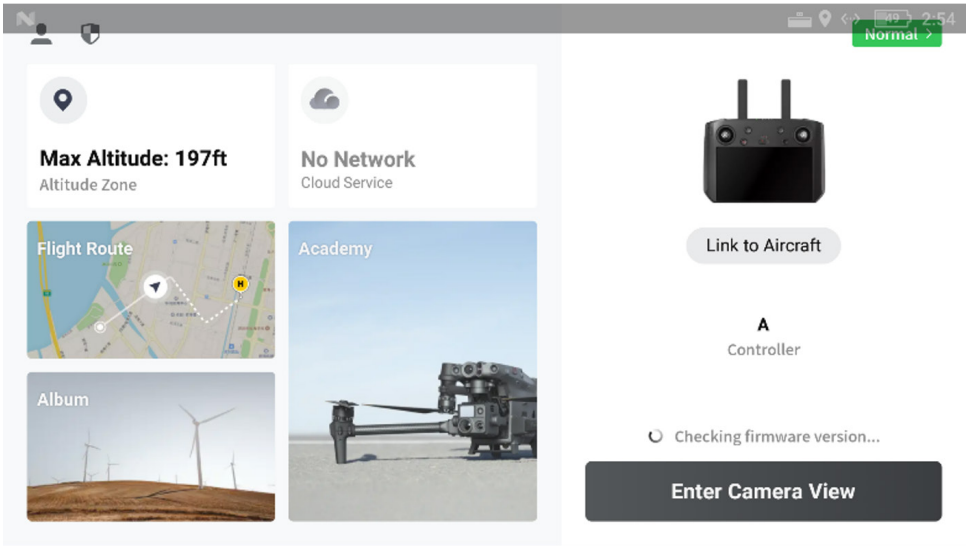
6. Aperture: From F/5.6 to F/8 or higher base on the working condition.

7. Focus mode:
- If the Focus mode is AF: AF-S is recommended for best focus on Pixy SM.
- If the Focus mode is MF: set the focus value to infinity by changing the focus ring of the lens (The Focus adjustment on the DJI Pilot app is not available at this time).

8. Focus Area:
- If the Focus mode is AF: recommend Wide Zone or Center.
- If the Focus mode is MF: skip this setting.

CREATE FLIGHT ROUTE

1. Choose Flight Route on the DJI Pilot.



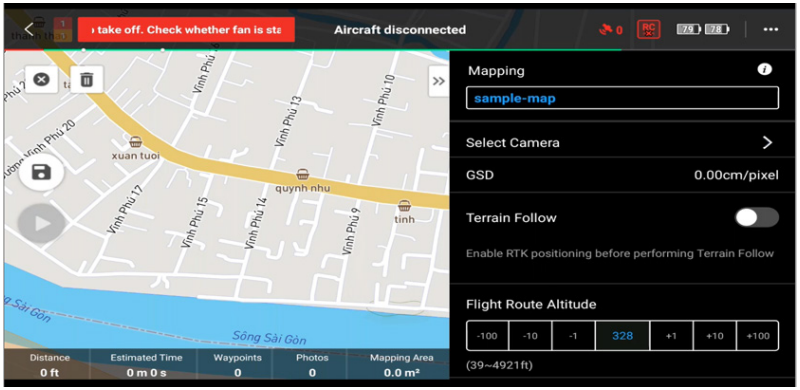
2. Choose “Create a Route” then choose “Mapping”

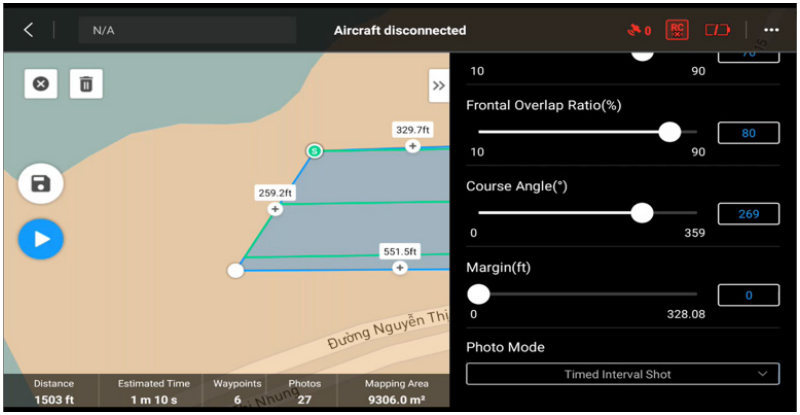
3. Adjust the parameter according to the map condition.

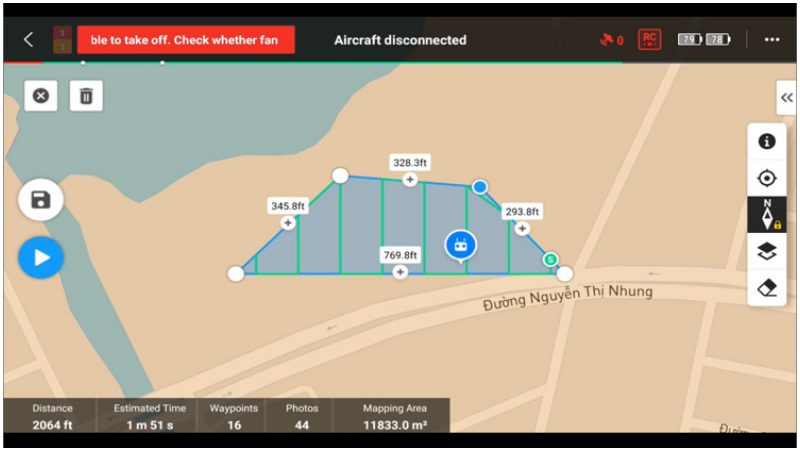
NOTE

- It’s recommended to create the map with each corner from 90 degree.
- Takeoff speed should be set at 3m/s.
- Waypoint speed best should be lower than 10m/s.

4. Create the route for mapping.



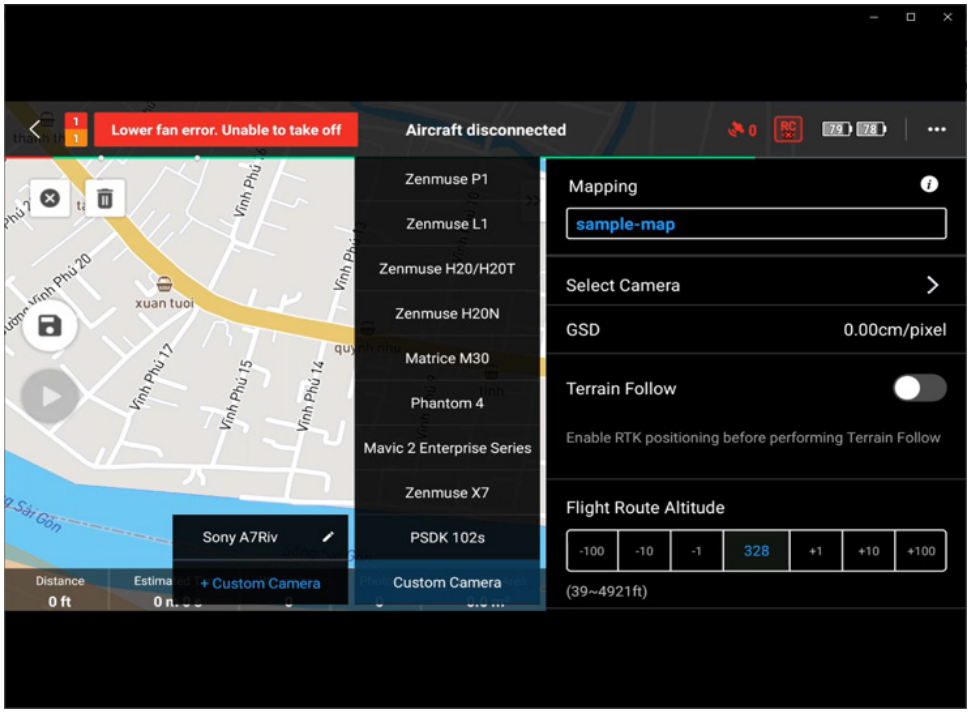




CREATE CUSTOM CAMERA

1. Choose Select Camera, then choose the Custom Camera.

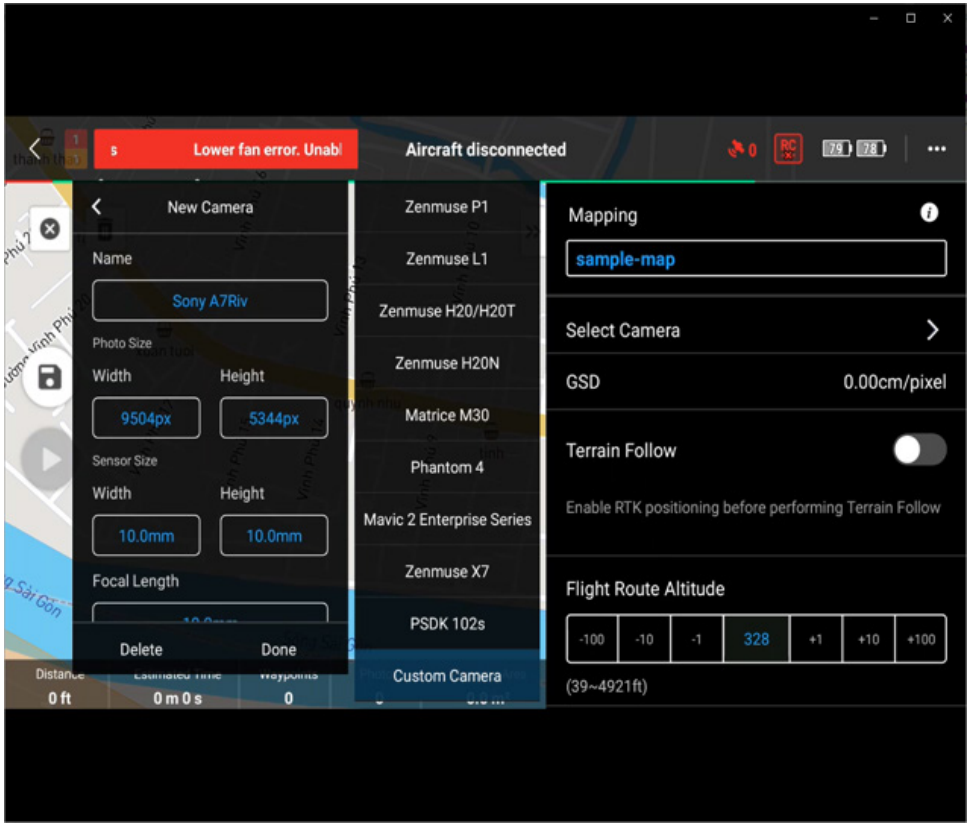
2. Rename and creat the custom camera



3. Photo size Adjust base on to the situation.

4. Sensor size 35.70mm x 23.80mm. Reference Link: Sony A7R IV .

5. Focal Length. Choose based on your lens (28mm | 35mm | 55mm).

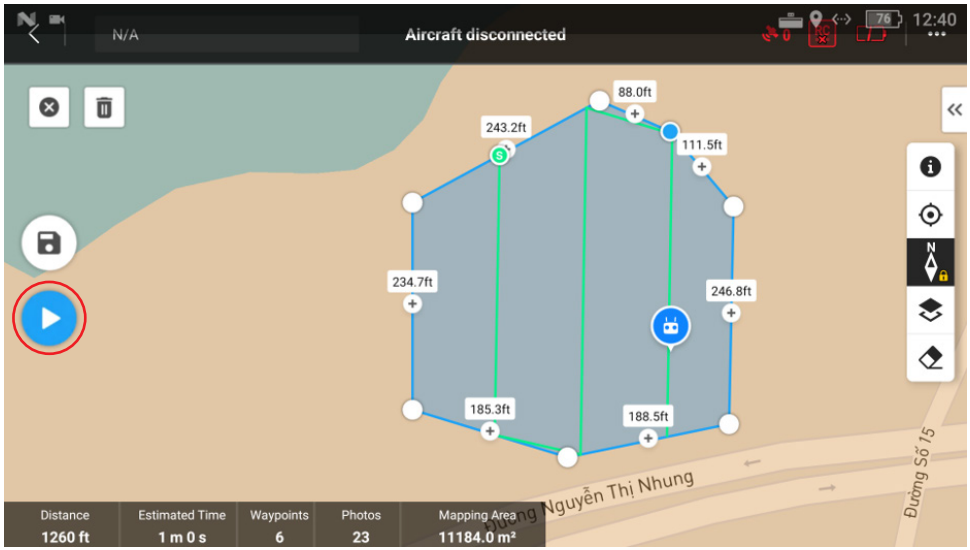


6. Min interval. From 2 seconds, adjust based on the flight speed.

7. Click Done to complete the camera profile and create.

8. Clink on the Save icon for the next use.

START MISSION



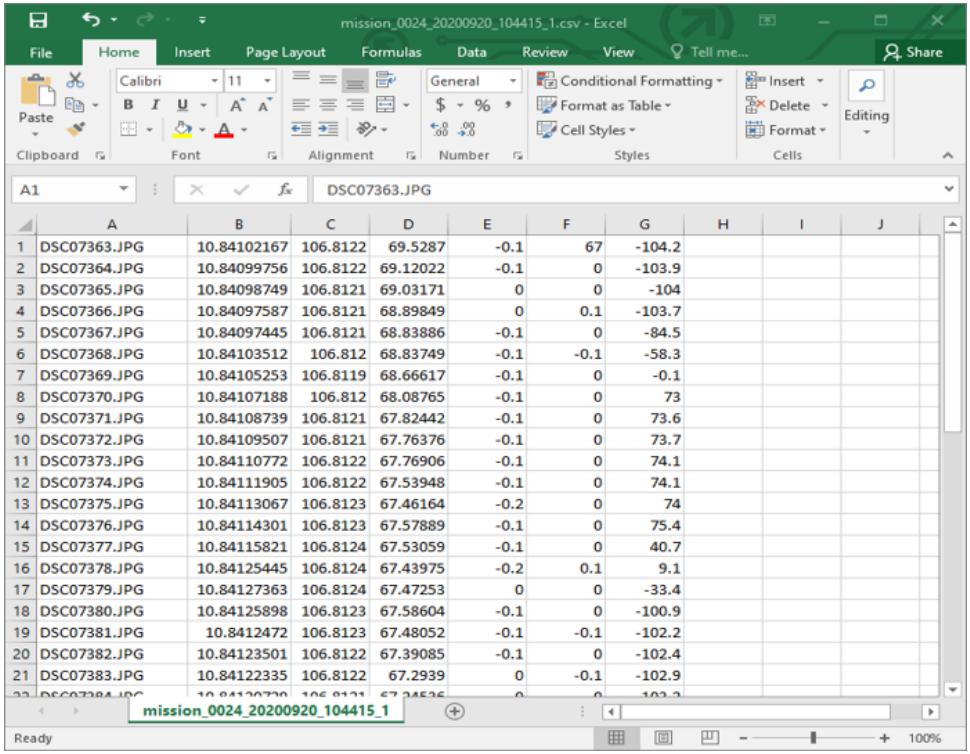
Click on the Start button to start mission

*Make sure the aircraft's GPS location is enabled, unobstructed and the payload is connected before flying.

POST PROCESSING

1. After completing the mission flight, remove the memory card mounted on the Pixy SM and Sony A7R IV.

2. Connect the Pixy SM memory card into the PC, open the folder geotag_log, copy the latest Flight**.csv file to a folder on the computer. For example Flight_0006_20220804_052802.csv



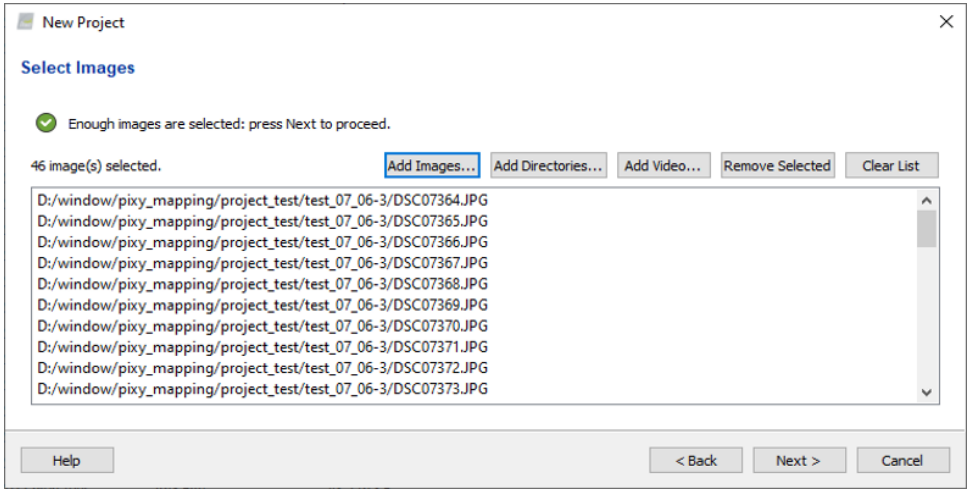
	A	B	C	D	E	F	G
1	DSC07363.JPG	10.84102167	106.8122	69.5287	-0.1	67	-104.2
2	DSC07364.JPG	10.84099756	106.8122	69.12022	-0.1	0	-103.9
3	DSC07365.JPG	10.84098749	106.8121	69.03171	0	0	-104
4	DSC07366.JPG	10.84097587	106.8121	68.89849	0	0.1	-103.7
5	DSC07367.JPG	10.84097445	106.8121	68.83886	-0.1	0	-84.5
6	DSC07368.JPG	10.84103512	106.812	68.83749	-0.1	-0.1	-58.3
7	DSC07369.JPG	10.84105253	106.8119	68.66617	-0.1	0	-0.1
8	DSC07370.JPG	10.84107188	106.812	68.08765	-0.1	0	73
9	DSC07371.JPG	10.84108739	106.8121	67.82442	-0.1	0	73.6
10	DSC07372.JPG	10.84109507	106.8121	67.76376	-0.1	0	73.7
11	DSC07373.JPG	10.84110772	106.8122	67.76906	-0.1	0	74.1
12	DSC07374.JPG	10.84111905	106.8122	67.53948	-0.1	0	74.1
13	DSC07375.JPG	10.84113067	106.8123	67.46164	-0.2	0	74
14	DSC07376.JPG	10.84114301	106.8123	67.57889	-0.1	0	75.4
15	DSC07377.JPG	10.84115821	106.8124	67.53059	-0.1	0	40.7
16	DSC07378.JPG	10.84125445	106.8124	67.43975	-0.2	0.1	9.1
17	DSC07379.JPG	10.84127363	106.8124	67.47253	0	0	-33.4
18	DSC07380.JPG	10.84125898	106.8123	67.58604	-0.1	0	-100.9
19	DSC07381.JPG	10.8412472	106.8123	67.48052	-0.1	-0.1	-102.2
20	DSC07382.JPG	10.84123501	106.8122	67.39085	-0.1	0	-102.4
21	DSC07383.JPG	10.84122335	106.8122	67.2939	0	-0.1	-102.9

3. Connect the camera's memory card into the PC, copy the captured files (can refer to the name saved in the copied geotag_log file) to the folder containing the geotag file in step 7.

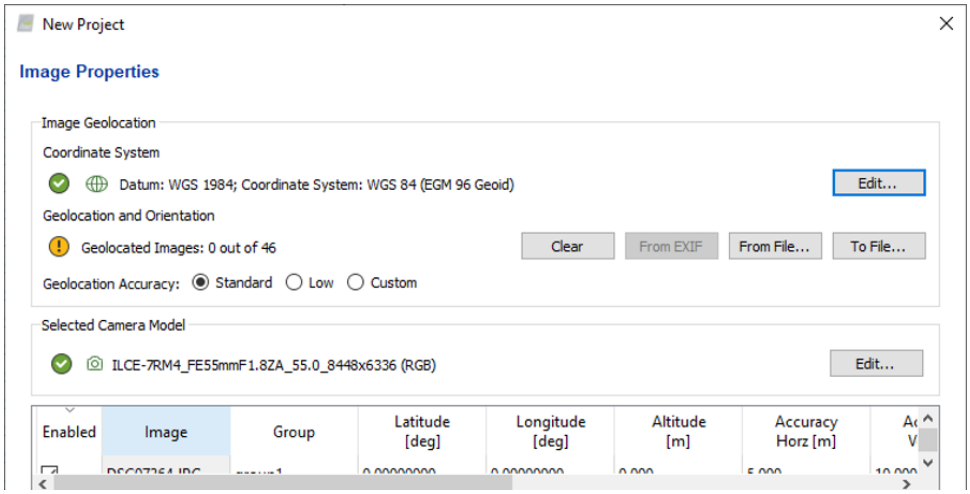
4. Open the Pix4d mapper software to proceed with creating the map.

5. Select the New project box to start a new project. Create project path pix4d.

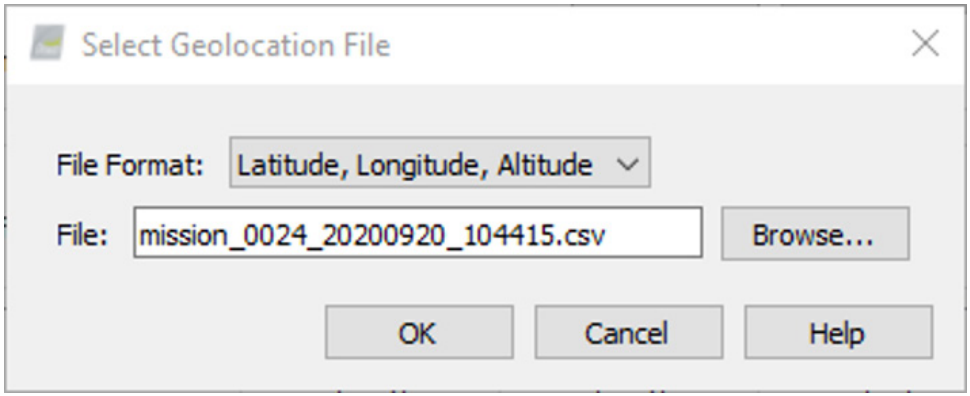
6. Click Next, -> Add Images box. Click on the link where the image files have been copied, select all the files. Click Next -> message box of pix4d appears -> click OK to continue.

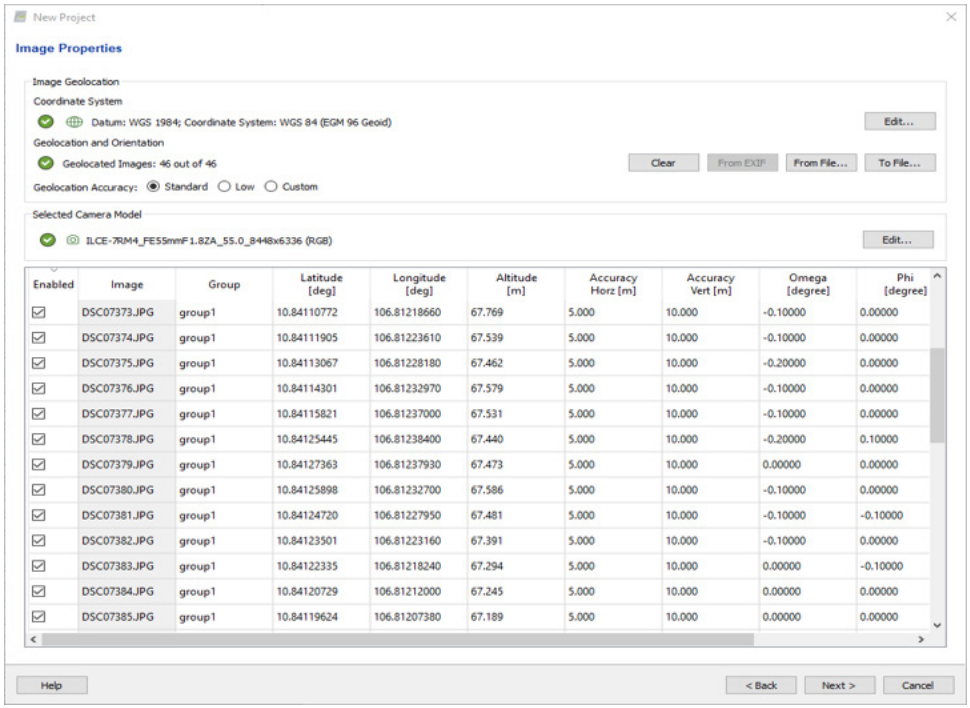


7. In the Geolocation and Orientation section, click From File.



8. The geolocation file window appears, click on Latitude, Longtitude, Altitude in File Format as shown in the picture. Browse to the geotag file that was copied earlier.





9. Click Next to continue, select the parameters suitable for the mapping geography or you can leave the default according to the Pix4d software.

10. Click Next, select 3D map in standard ink (Can be changed depending on the user's purpose). And click on the Finish box.

11. Pix4d starts processing and integrating GPS location with actual image. Depending on the number of images as well as the image quality, it can be done quickly or slowly.

BEFORE FLIGHT CHECKLIST

1. SD card check:
- Camera SD card.
- Gimbal SD card.

2. Hotshoe connection: Hot Shoe plugged in tightly as picture below

3. Check the PixySM payload on the M300 Remote
- Payload Status (1)
- Hotshoe connected (2)
- SD card connected (3)

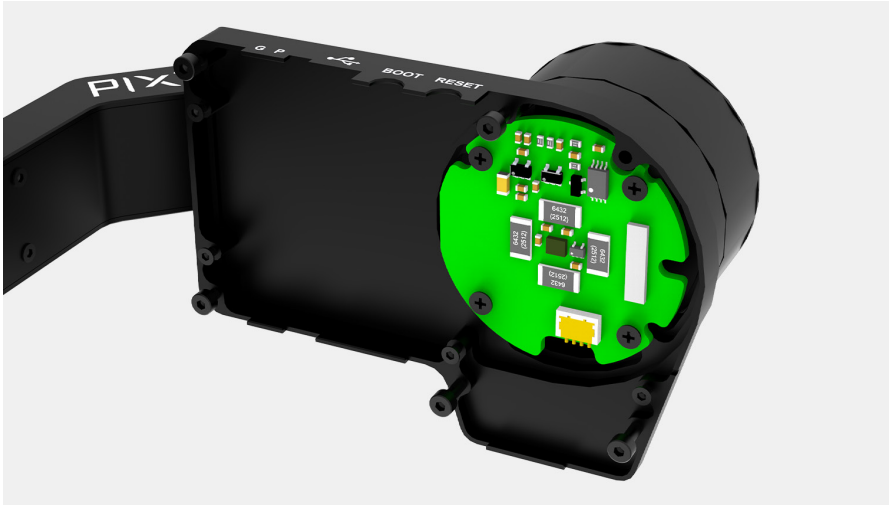
4. Check Map Route
5. Start mission
6. Power OFF M300
7. Power OFF camera
8. Post process flight data

IMU SENSOR

The IMU sensor used in the PIXY SM is a combination of a high precision 3 axis gyroscope sensor and a 3 axis accelerometer sensor.

IMU board is being heated where the temperature inside is controlled around 50°C with 0.2°C accuracy. Thanks to this feature, gyro calibration is no longer required in most situations.

The PIXY SM controller has a special algorithm to provide attitude estimation based on input data from the IMU sensor. This attitude estimation helps the controller to command motor output to compensate for camera movement.



GYPRO CALIBRATION

Thanks to temperature controlled and heated IMU, gyro calibration is not necessary as the gyro was calibrated at the factory and the temperature inside IMU remains constant around 50 degrees. However, if you notice drift during operation in extreme weather (below -20C or above 50C) please re-calibrate the gyro.

- **CALIB AT STARTUP:** this feature is not available on the PIXY SM

NOTE

After Gyro Calibration, Gyro Offset X, Y, Z will change to a new value depending on the temperature.

ACCELEROMETTER CALIBRATION

Do not use this function, please contact Gremsy Support Engineers. Accelerometer sensor was calibrated properly at the factory to achieve accurate horizon level with special and precise equipment. Users do not need to do this unless it's required for troubleshooting.

INSTALLING SOFTWARE

Desktop software

Download at:
www.gremsy.com -> Support -> Product Support -> Pixy SM

USING USB CONNECTION

NOTE

Make sure the Silab USB driver is already installed. The driver can be found at:
www.gremsy.com -> Support -> Product Support -> Pixy SM

STEPS TO CONNECT

1 - Power ON the PIXY SM.
2 - Connect USB cable from gimbal controller to Mac/PC.
3 - Run the gTuneDesktop software.
4 - On Connection Tab, select the Serial option.
5 - Select the correct COM port in the list.
6 - Click on the “Connect” button.

UPGRADING FIRMWARE

Only USB connection allows upgrading firmware. Refer to Section “01. GETTING STARTED” for USB connection.

Make sure Silab USB driver is already installed. The driver can be found at:
www.gremsy.com -> supports -> product support

DEVICES CHECKING

REQUIRED APPS

- **GremsyFlashTool**: To flash firmware for pSDK_Board-V21B(Carrier Board).
Download at: https://github.com/Gremsy/GremsyFlashTools_Public

- **gTuneDesktop**: To connect gimbal & flash gimbal firmware.
Download at: https://github.com/Gremsy/gTuneDesktop

REQUIRED FIRMWARE

- **Firmware for SoM**: Choose the latest Pixy SM firmware for SoM.
Download at: https://github.com/Gremsy/PixySM300_SoM_Firmware

- **Firmware for the gimbal**: Choose the latest version of the gimbal.
Download at: https://github.com/Gremsy/PixySM-Firmware/releases

NOTE

The switch under Tilt have 2 modes:
“G” for flashing Gimbal firmware
“P” for flashing SOM firmware.

HOW TO UPGRADE GIMBAL FIRMWARE

01 - Mount the Pixy SM to DJI M300.

02 - Power on the aircraft.

03 - Connect USB cable from gPort to Mac/PC.

04 - Run the gTune Desktop Software.

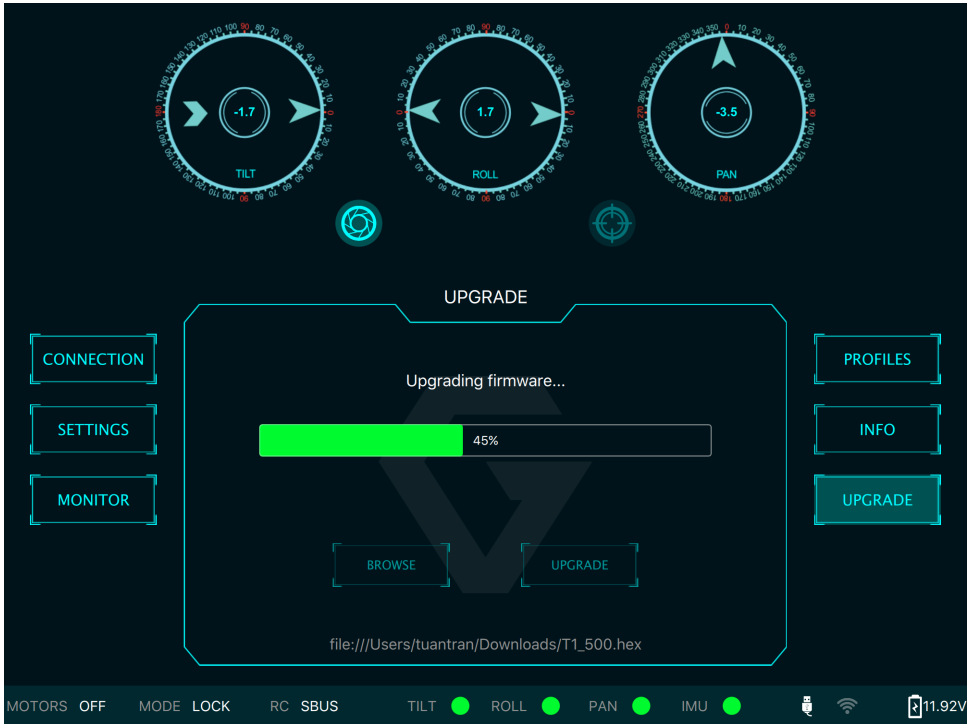
05 - In the software, select “Serial” option on “CONNECTION” tab.

06 - Select the port in the list.

07 - Click on the “CONNECT” button.

08 - “Browse” to firmware file for your gimbal from your computer.

09 - Click “Upgrade” button. The process will take about 2 minutes. When the firmware is upgraded successfully, the gimbal will be restarted automatically.



HOW TO UPGRADE SOM FIRMWARE

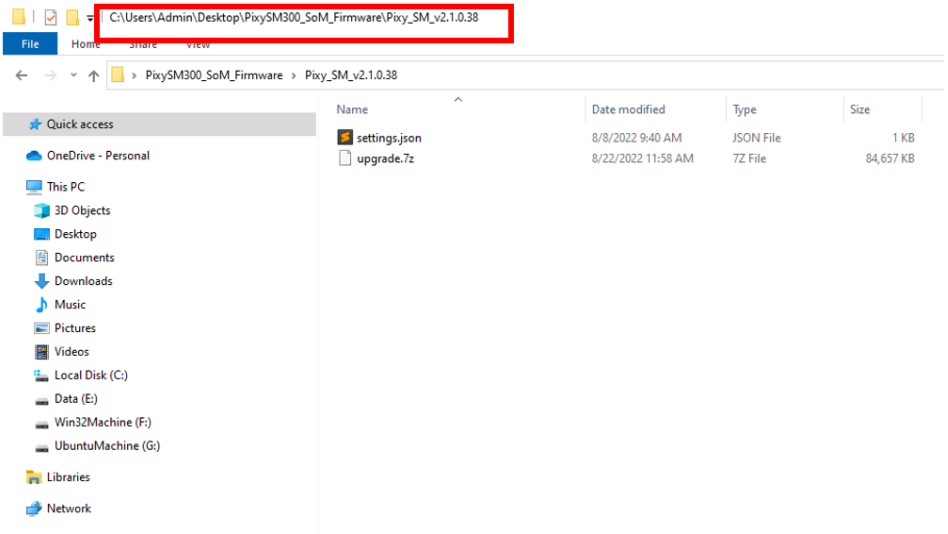
USING FLASH TOOL

01. Switch the button on SOM to “P”.

02. Download and extract the firmware folder.

Download the latest version here:

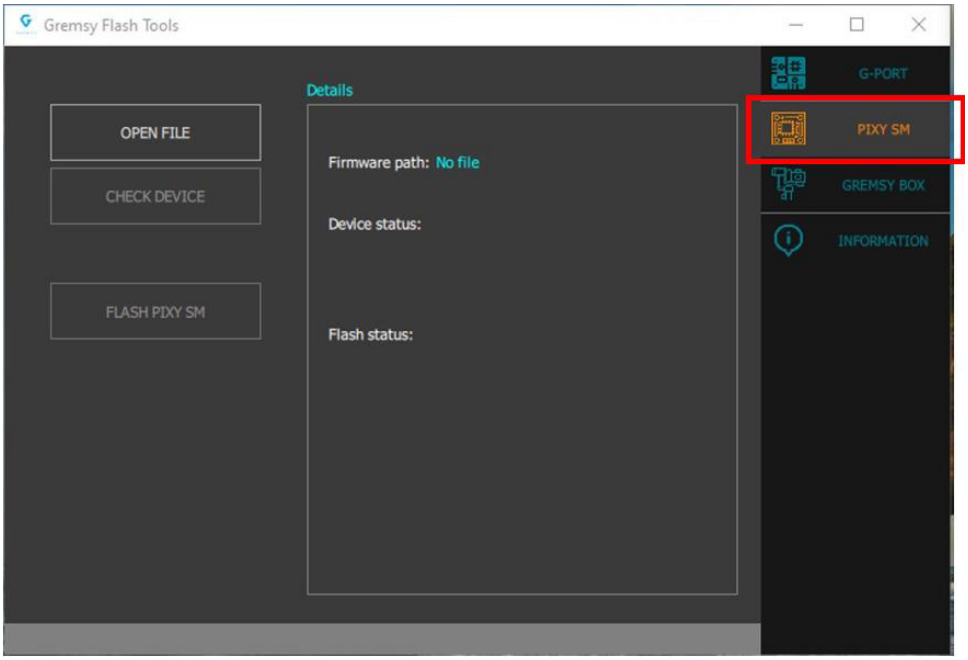
After downloading the zip file, extract this file and make sure that The Firmware folder will include two files “setting.json” and “upgrade.7z”. These files must be in the same folder.



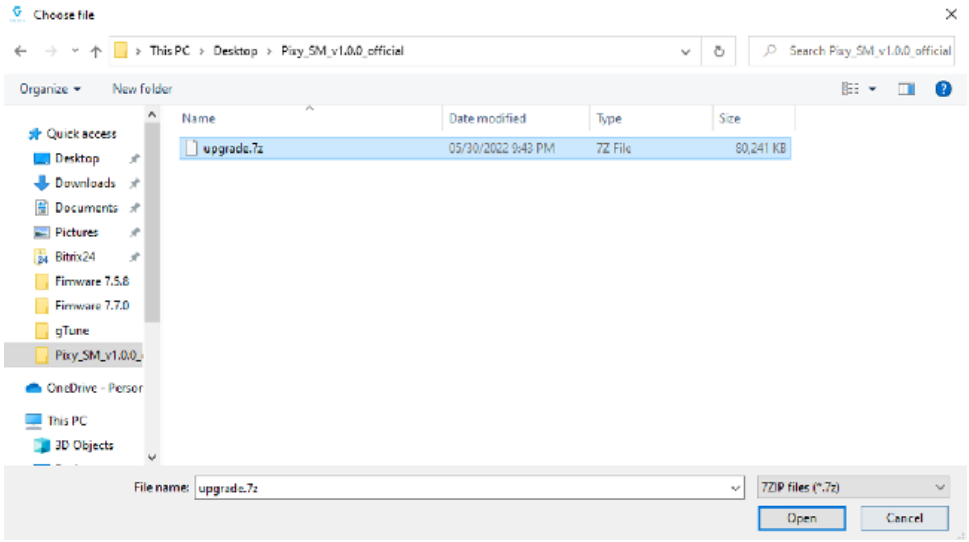
NOTE

- Do not save the folder on Network Drive
- Do not rename the folder or files. If you want to move the files to another place, copy the whole folder.
- The firmware folder link must not have space (blank) or special characters. Ex: link on the picture above.

03. Open the Gremsy Flash tool then choose “PIXY SM”.



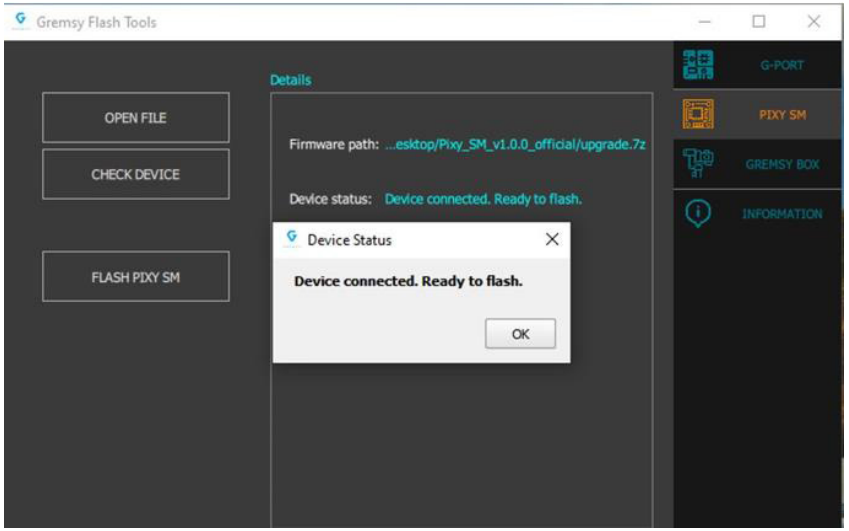
04. Choose “OPEN FILE” and browse the right firmware file.



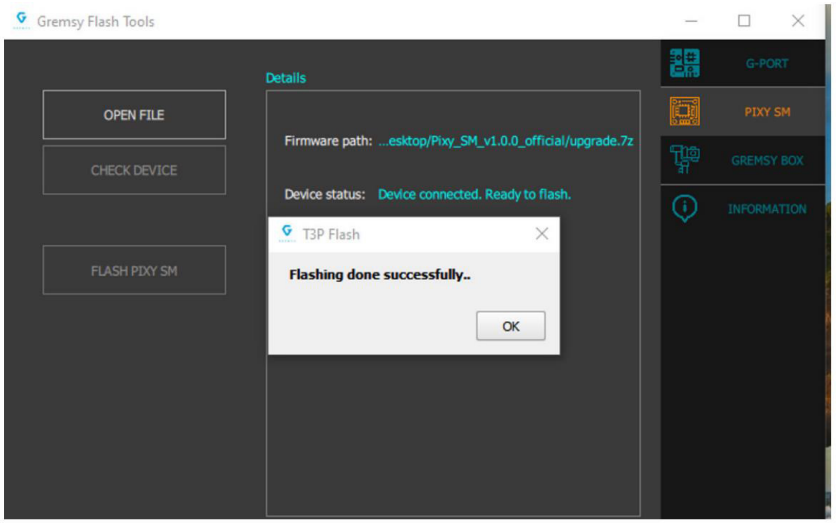
05. On the SOM, do the steps below

- Press “BOOT” and hold
- Press “RESET” and hold
- Hold “BOOT” and “RESET” simultaneously for 3 – 5 seconds
- Release “RESET”
- Release “BOOT”

06. On Gremsy Flash Tools, click “CHECK DEVICE” to check device status. Connection successfully will show as below:

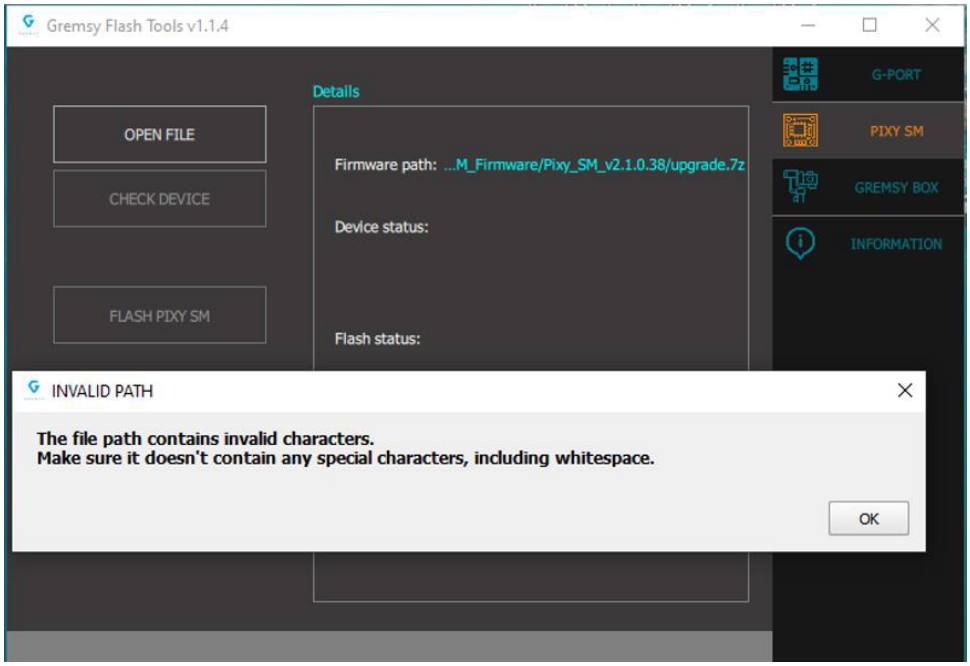


07. Finally, click “FLASH PIXY SM” and wait for the process to complete (normally take 3 – 5 minutes)



TROUBLESHOOTING

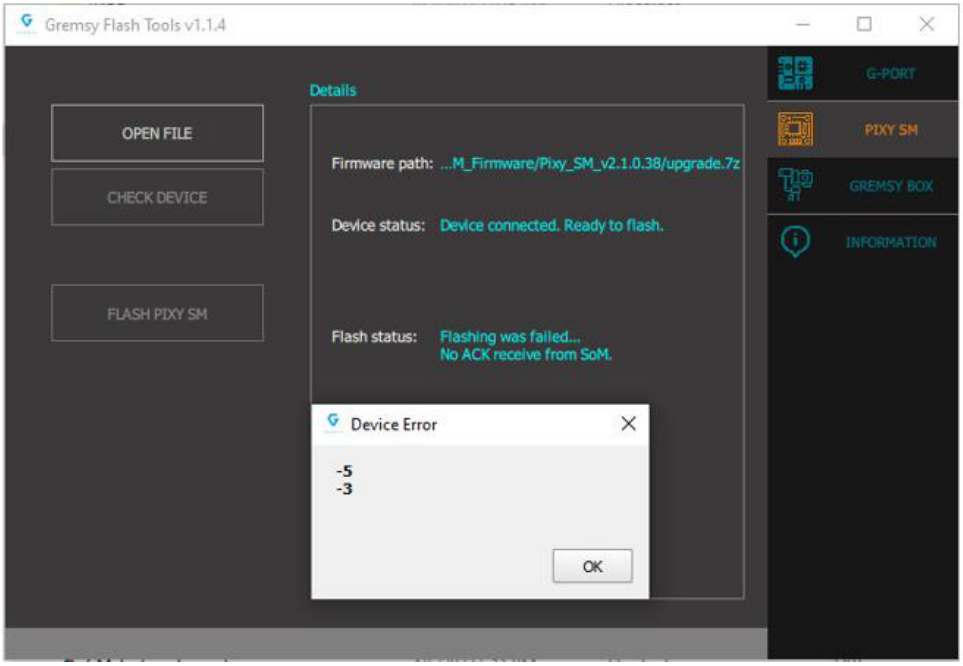
01. Firmware folder name has space (blank)



This problem will be fixed when saving the folder where the path has no spaces and special characters.

Example: C:\Users\Admin\Desktop\PixySM300_SoM_Firmware\Pixy_SM_v2.1.0.38 (no spaces and special characters)

02. Lost file setting.json



This error will be fixed by extracting the firmware again and not moving the files contained in the folder after decompression.

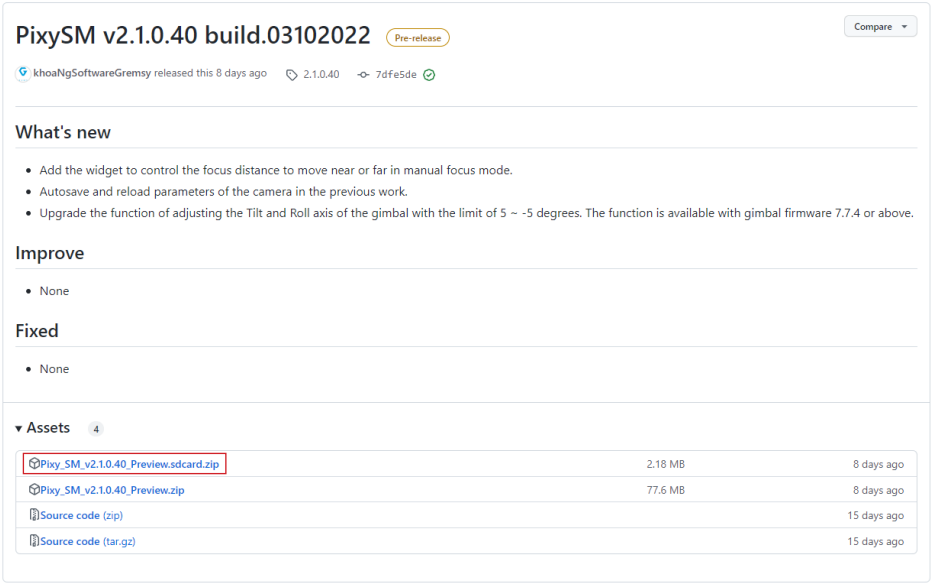
During the loading process, if there are other errors, please capture the error code and contact our support team by email: support@gremsy.com

USING SD CARD

NOTE

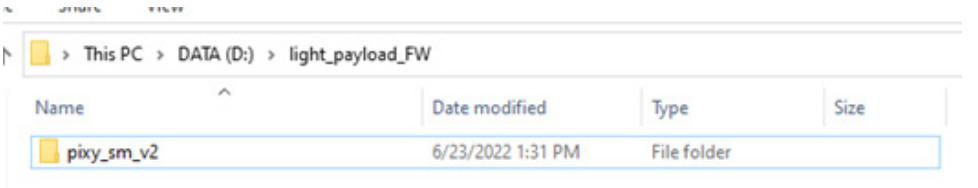
Only support SOM firmware from 2.1.0.38. Older versions must be upgraded to v2.1.0.38 or higher.
Firmware upgrade via SD card is only applicable to SOM firmware. Please refer to the user manual for instructions on how to upgrade the gimbal firmware.

1. Download the SOM firmware SD card version on Gremsy Github

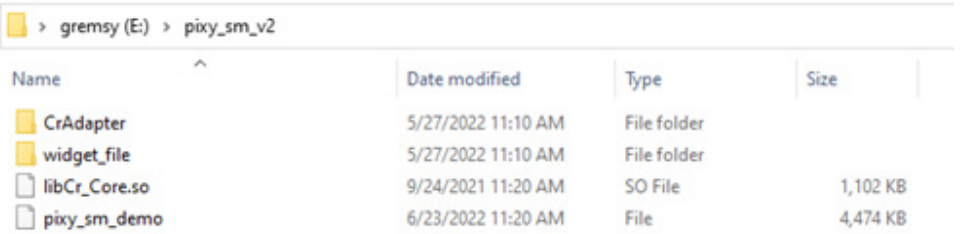


2. Extract the .zip (or .rar) firmware file just downloaded.

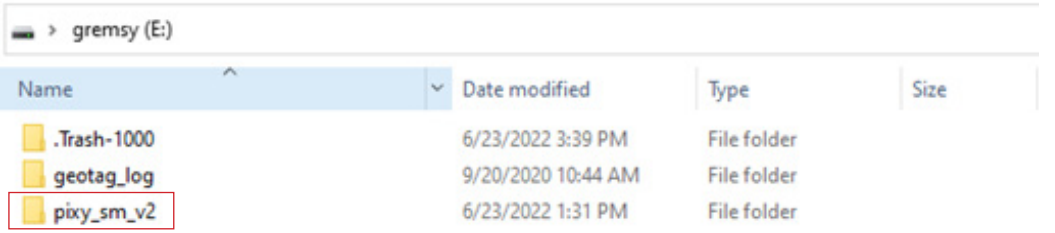
3. After extract successfully, the folder as below will appear



The folder will be include files for SOM firmware upgrade as below:



4. Copy Folder into the Pixy SM's SD card as below



5. Install the SD card to the Pixy SM SD card slot

6. Make sure the switch in “P” position

NOTE

The switch under Tilt have 2 modes:
“G” for flashing Gimbal firmware
“P” for flashing SOM firmware.

7. Press Re-Boot on DJI Pilot app and wait for the process to complete.

TROUBLESHOOTING

NOTE

Find more at:
www.gremsy.com -> supports -> product support -> Pixy SM

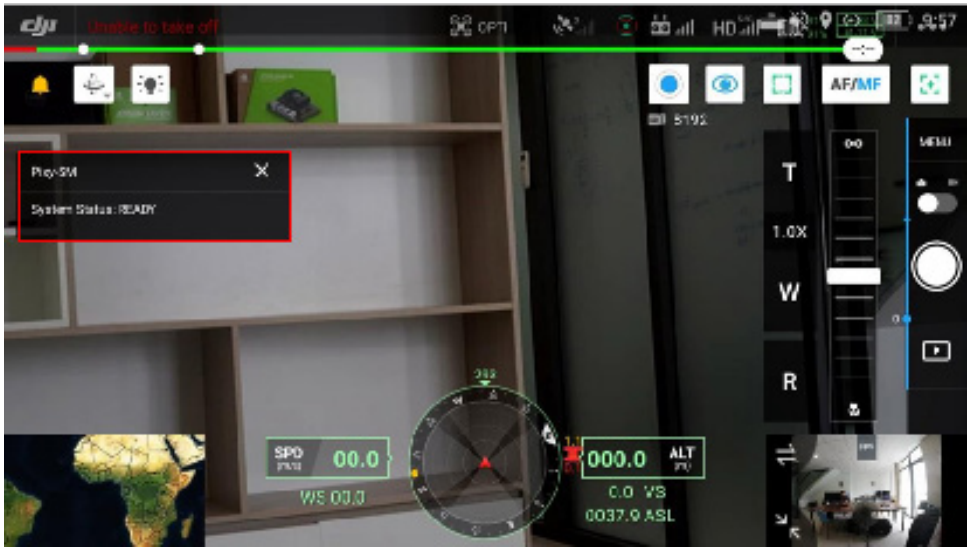
CHECKING

PAYLOAD CHECKING

Payload information will appear on the bottom right of the screen.

THE CAMERA LIVE VIEW CHECKING

Check the live view on the remote controller.



MEMORY CARD CHECKING

When the Memory Card is not inserted, the Remote Controller's screen will display the icon (marked yellow) in the picture.

PROBLEM	POSSIBLE CAUSES	SOLUTION
System Error	Camera, Gimbal are damaged	Check each component.
Camera Not Found	Connection is loose	Check the USB-C connection. Check Sony camera control is set.
Gimbal Not Found	Gimbal Error	Connect to gTune software to check the error status of the gimbal.
Video Transmission error	Connection is loose or gimbal video transmission is damaged.	Reboot SOM system by using DJI PILOT APP. Waiting for the video stream (Approx: 1 minute)
Not displayed payload on DJI Pilot App.	App/device connection issue	Scroll down and choose Recent. Then reopen
Uncontrolled camera	The cable connection is loose	Check the camera USB cable connects from the gimbal to the camera.
Live view is not working or is dark	The cable connection is loose	Check USB camera cable connecting from the gimbal to the camera
Not insert the SD card	No SD card or system error	Insert the SD card and press the button “RESET” on the tilt axis.