

ALETA S2C



User Guide Version 0.7

Introduction

This manual is for the users who attempt to use ALETA S2C 360 degree camera and the Aleta Viewer on mobile device.

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Chapter 1. Camera Body



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|------------------|-------------------|----------------|------------------|
| 1. Power Button | 2. Shot Button | 3. Status OLED | 4. LED Indicator |
| 5. 12V DC Jack | 6. MIC/Line in | 7. USB port | 8. SD Slot |
| 9. Tripod Socket | 10. Battery Cover | | |

Power Button

- Press power button to power on the camera.
- Press power button to enter sleep mode when camera is on.
- Press power button again to exit sleep mode.
- Hold power button for 2 seconds to turn off camera.

1.2 Shot Button

- Press shot button to take picture in Photo mode.
- Press shot button to start / stop recording in Record mode.
- Hold shot button to switch Photo / Record mode.

1.3 Status Screen

The icons on the OLED screen would show camera information.

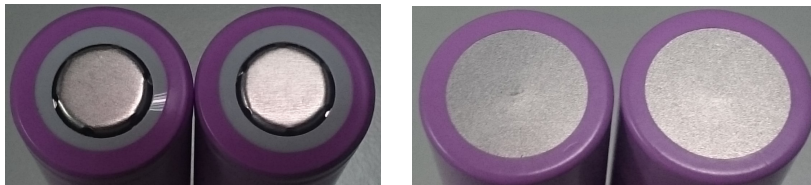
1.4 Connectors

- USB port: Connect to extension devices.
- SD Slot: Insert Micro SD card for storage. The camera supports 8GB~128GB SD cards, but only in FAT32 format. Note that most 128GB SD cards are exFAT so please use the camera to format it.
- 12V DC Jack: Connect a 12V DC adapter (not included in standard package) for camera's power.
(12V DC is for long-term power supply. It does not charge the battery.)
- MIC/Line in: Connect to an external microphone for audio-in.

*The external audio-in function is not ready yet. For now it only supports audio from cell-phone through APP.

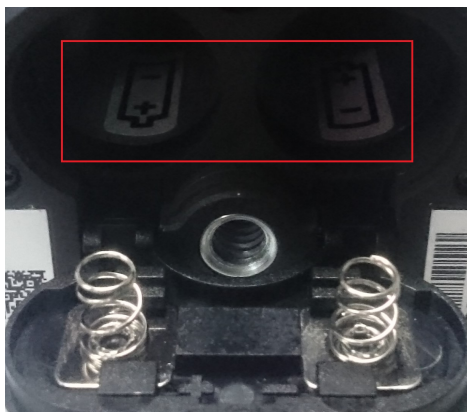
1.5 Installing Battery

- Open the Battery cover and follow the direction to insert batteries.



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battery type:18650 voltage rating 3.7Vdc

- ※ **The camera is built in with antenna and must be installed to provide a separation distance of at least 20 cm from all persons.**

Chapter 2. Connect ALETA S2C to Mobile Device

2.1 Install Aleta S2 Viewer

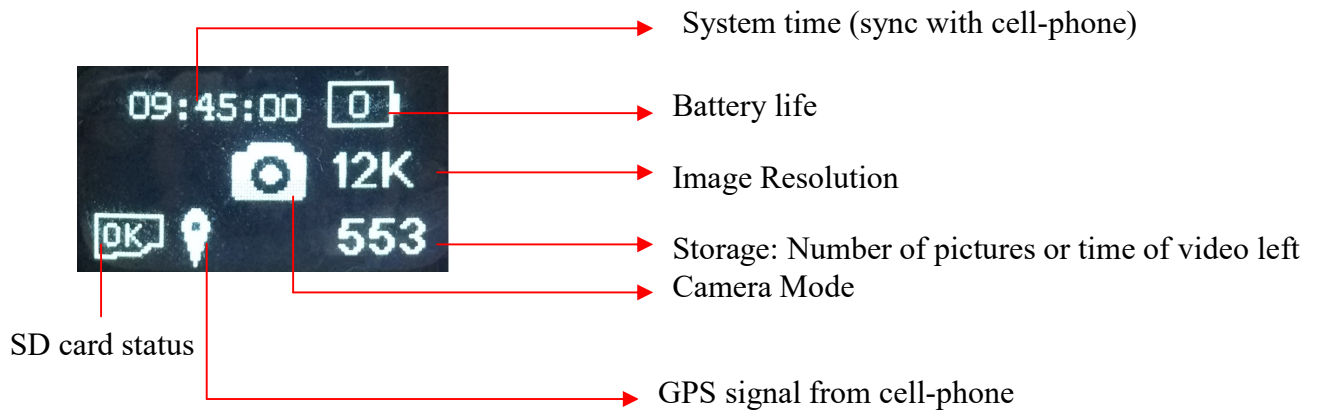
Install AletaS2 Viewer from APP Store or Google Play on your mobile device. The icon will show on your app list.

2.2 Power on Camera

Click the power button to power on the camera.
During the booting processing, a set of SSID and Password will show up on the OLED screen.

2.3 Status OLED

The status OLED will show camera information after booting up successfully.




2.4 Connect to Wi-Fi

Connect to the Wi-Fi SSID and input the password shown on camera by your mobile device.

Default SSID: US_XXXX (XXXX = 4 random digits) Default Password: 88888888

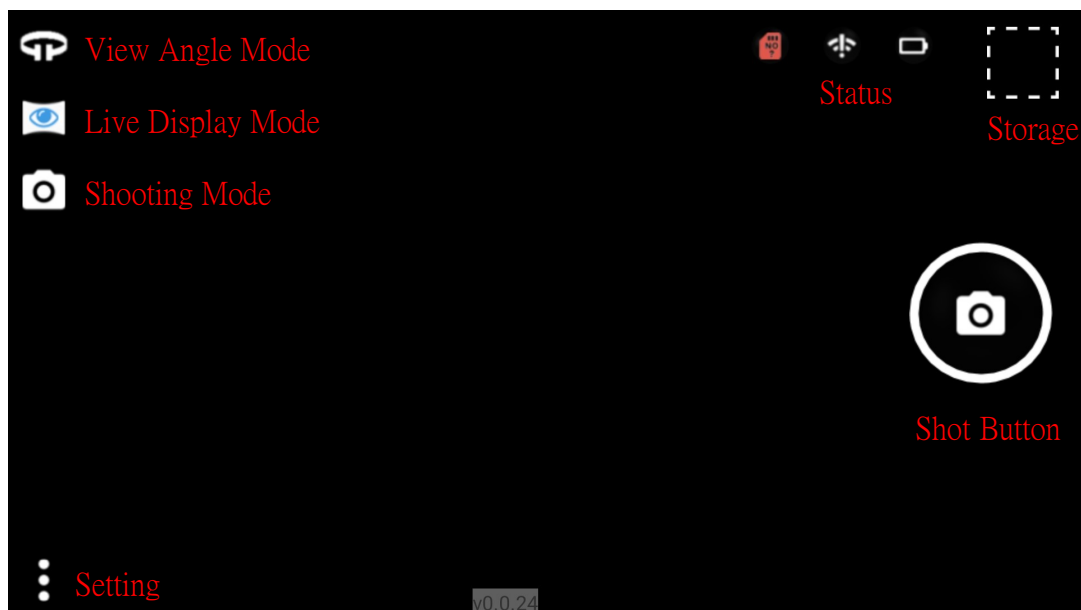
2.5 Run ALETA S2 Viewer



Click the icon  to run the Viewer. If the Wi-Fi is connected correctly it will show live image immediately.

Chapter 3. Live View Function

3.1 Live View



The live image should be displayed in Global mode while you first access to Viewer.




3.2 Shot button

In photo mode, click the button to take pictures. In recording mode, click the button to start recording, and click it again to stop. Recording time will show up during recording. The maximum size of the recorded file is 1GB, and the maximum time is 25 minutes. Once one of the thresholds is reached, camera will save current file and start a new file automatically.

*For audio recording, if the APP is running during recording, audio will be recorded by the cell-phone. If the camera has connected a external microphone, audio will be recorded by the microphone no matter APP is running or not. Without APP or microphone there would be no audio recording.





3.3 View angle mode

There are 3 modes to control the view angle:

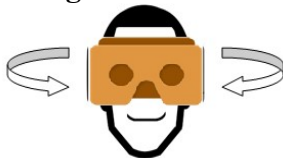
-  Normal mode: Slide on the screen to change the view angel.
-  Auto mode: The view angel will keep moving after sliding.
-  Compass mode: Rotate your mobile device to change the view angel.

Note: The view angle cannot be changed in standard global view.

3.4 Live display view

-  Standard global view: Display full image. The view angle cannot be changed in this mode.
-  Front view: Display 90 degrees of image and the view angle can be freely controlled.
-  Little planet view: Display 360 image in a circle.
-  VR view: Display side-by-side image. Please use a cardboard to view the immersive 360 degree image.





View angle control:



Rotate head to change view angle


Note: The live display view is used for preview in different modes. The image recorded will be standard global format.



3.5 Shooting mode

-  Photo mode: Take pictures
-  Recording mode: Record videos
-  Time-lapse mode: Take continuous pictures for time-lapse video
-  Other modes: Includes HDR for 3 exposure pictures and RAW for 5 unstitched pictures.


3.6 Status

The status icons will show in upper-right.

-  SD card status. “OK” means SD card is in slot and ready for image saving. “No” means there is no SD card in slot. “100%” means the SD card is full, and “ERR” means the card is broken or still in detection. Click this icon can view full










- SD card status.
-  Wi-Fi signal status. “!” mark means the signal is weak or disconnected that image could be lag or lost. Click this icon could select available Wi-Fi. (Android only)
-  Battery life indication. Click this icon can view full battery status.

3.7 Storage

Click the upper-right button  to access the storage menu.

Toolbar:










- All / Photo / Video: Select the type of file to be shown.
-  Change the amount of displayed files.
-  /  Switch to Atelta SD card / Mobile device storage.
-  View file folders (Android) / Album (iOS) in the cell phone
-  Play selected file. Only downloaded files can be played. To play a file in SD card will trigger download first. Files recorded in 360 or Global mode can be displayed in different formats. Click the button on lower-right to select the format.
-  Standard global view: Display full image. The view angle cannot be changed in this mode.
-  Front view: Display 90 degrees of image and the view angle can be freely controlled.
-  Little planet view: Display 360 image in a circle.
-  VR view: Display side-by-side image. Please use a cardboard to view the immersive 360 degree image.

View angle control:



Rotate head to change view angle

-  **Screenshot:** To snapshot  or record  current screen while playback.
-  See file information

-  Download file from SD card to mobile device.
-  Upload selected file. Only downloaded files can be uploaded. To play a file in SD card will trigger download first. During uploading the camera will shut the Wi-Fi connection so that the cell phone can access internet through other connection.
-  Delete file

The color of frame means different status:

- Green: Selected
- Gray: Downloaded
- Red: Resume (download unfinished)


The color of file name tag means different file location:

- Green: In camera SD card
- Blue: In cell phone local storage
- Yellow: In cell phone SD card


Chapter 4 Setup

Click the bottom-left button  for Aleta S2C setup.



4.1 EV

 Change image target brightness by selecting the EV value. Note that the target is adjusted by ISO and shutter speed. If both ISO and shutter speed are set to fixed values, this function would not work.


4.2 Stitching

 This function can change the stitching distance between lenses. Note that there is a minimum distance of 1 meter to stitch. Objects which is less than 1 meter away from the camera and on the stitching line would not be stitched properly.


- Manual / Auto stitching: The right end is auto stitching. The camera will auto detect the distance to stitch. The left end is manual stitching. The camera will use the selected distance to stitch. The middle part will refer to each method according to the weights.

-  Stitching distance for the image on top.
-  Stitching distance for surrounding image.

4.3 ISO

 Change image gain value. Larger gain brings more brightness, but also more noise. If ISO is set to auto, camera will adjust it based on EV.

4.4 Shutter Speed


 Change the shutter speed. Fast (short) shutter speed can get clear image for moving objects, but the brightness would become low. If shutter speed is set to auto, camera will adjust it based on EV.






※ EV target adjustment is based on ISO and shutter speed, so it only works when at least one of them is set to “Auto”.

4.5 Sharpness

 Change the sharpness of the image.

4.6 White Balance

 Change the white balance of the environment:

-  Auto detection
-  Lamp
-  Fluorescent
-  Daylight
-  Cloudy
- **RGB:** Select color temperature to adjust color.

4.7 Setting



Image

- **Photograph Resolution:** Select photo resolution

- **Record Resolution:** Select video resolution
- **Time-lapse Resolution:** Select time-lapse resolution
- **Time Lapse Mode:** Setup the time interval for time lapse mode. The recorded video would be played in 30 fps. The time-lapse video would be faster than normal video and need more time to record.
 - 0.1 sec: 3 times faster.
 - 1 sec: 30 times faster
 - 2 sec: 60 times faster
 - 5 sec: 150 times faster
 - 10 sec: 300 times faster
 - 30 sec: 900 times faster
 - 60 sec: 1800 times faster

* For 0.1 sec it would actually 0.1 for 4K, 0.3 for 6K, 0.5 for 8K, and 1 for 12K.
- **Image Quality:** Higher quality brings larger file size. Select the proper quality for the application.
- **Shooting Delay:** Setup the countdown time for shooting.
- **HDR Mode:** Select the EV increment between HDR pictures.

Camera

- **Format SD:** Format the SD card in camera (all files will be erased).
- **Sleep:** Set the idle time that triggers sleep mode. Click the power button can wake up the camera. Note if the camera is in sleep mode for over 10 minutes, it will shut down automatically.
- **Fan Control:** Select fan speed
- **Information Setup:** Turn off /on the 3 indicators: speaker, LED and OLED screen.

Bottom Setup: You can add bottom logo on the taken photos. Drag the bar to select the range of the logo.



No bottom



Built-in: Select built-in bottom image



Import: Import your own pictures from cell-phone. The size of 1024 x 1024 is suggested.



Stretch: Stretch surrounding image as the bottom image.



Mirror: Put mirror image to the button.

*Button function can only work for photo mode.

- **Position:** There are 3 position modes: Auto, Flat, and Ceiling. Select the mode according to the way you install your camera, or use Auto mode for auto position detection.
- **Power Systems:** Select the frequency of the light source and electric equipments to avoid flicker.
- **Record Stitching Control:** The camera will automatically stitch distance, brightness and color. You can turn them on / off during video recording.

Advanced

- **Wi-Fi Channel:** Select the Wi-Fi channel to avoid interference.
- **SSID / Password:** Change the SSID and password of the camera Wi-Fi.
- **Live Stream Codec:** H.264 is more compressed but need more CPU power to decode. MJPEG is easier to decode but need more bandwidth so that the frame rate is lower. Note that if your cell phone doesn't support 4K H.264 decoding, you can only use MJPEG to view 3K / 4K / 6K live image.
- **Ethernet Setting:** Set camera IP for Ethernet IP connection.
***For Ethernet connection, please refer to Appendix 1.**
- **HDMI Display Chart:** Show / Hide the lumen chart in HDMI display.
- **Power Saving:** Turn on the mode to save power.
- **Camera Version Update Tip:** Turn on / off the notice of camera firmware update.
- **Restore to Factory Default:** Reset all settings to default.
- **Compass Regulate:** Follow the instruction to regulate e-compass for better accuracy.
- **About:** Check Firmware version, System Time, Battery power, and SD card status.

Chapter 6 Firmware Upgrade

- Put the upgrade file (.zip) to the root of the SD card and make sure that there is no other zip file in the same root.
- Insert the SD card into the camera.
- Turn on the camera and while the SD card status is “OK”, the camera will start to upgrade.
- After finishing upgrading, the camera will reboot.
- The upgrade file will be remembered so the camera will not keep upgrading by the same file.
- If the zip file is not recognized successfully, the camera will stop upgrading and show “aborted” on the OLED screen. Please press power button to shut down the camera and check the file again.

Federal Communication Commission Interference 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.

FCC Caution:

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.

- Any changes or modifications not expressly approved by the party responsible for compliance could void the authority to operate equipment.
- This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.
- For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible

Mobile Device

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.

NCC Warning Statement

Article 12

Without permission, any company, firm or user shall not alter the frequency, increase the power, or change the characteristics and functions of the original design of the certified lower power frequency electric machinery.

Article 14

The application of low power frequency electric machineries shall not affect the navigation safety nor interfere a legal communication, if an interference is found, the service will be suspended until improvement is made and the interference no longer exists.

Appendix 1: Aleta S2C Network streaming display guide



※You need a Micro USB to RJ45 adaptor

for wire connection.

1. IP setting

DHCP: No need setting.

Static IP: Connect to Aleta S2C by Aleta Viewer and go to Ethernet Settings.

Ethernet Settings

IP Mode :	<input checked="" type="radio"/> DHCP <input type="radio"/> MANUAL
IP Address :	<input type="text" value="0.0.0.0"/>
Mask Address :	<input type="text" value="0.0.0.0"/>
GateWay :	<input type="text" value="0.0.0.0"/>
DNS Server :	<input type="text" value="0.0.0.0"/>

2. Connect camera to network

For wire connection, connect Aleta S2C to the Hub through a USB to RJ45 adaptor.

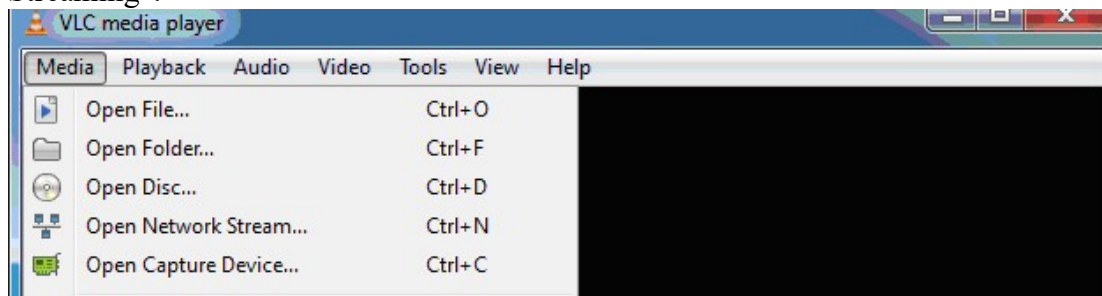


For wireless connection, use the “**Connect camera to Wi-Fi**” function (Not available yet)

After connection, the OLED screen will show the IP.

3. Play by VLC player

3-1. Connect your PC to the hub and run VLC Player and click open “Network Streaming”.



3-2. Input: rtsp://(IP):8554/us360.264

*The default account and password of RTSP streaming are admin /admin, and the default RTSP port is 8554.

4. Play by the Viewer on a mobile device

4-1. Connect your mobile device to the same network of the camera and run the Aleta Viewer.

4-2. Click the Wi-Fi icon on upper-right and select remote connection. (For iOS version, run the APP without connecting to an Aleta S2C Wi-Fi, the remote connection window will show up.) The default remote port is 8555.

Connect Camera :

Remote 192.168.1.1:8555

Exit	Disconnect	OK
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4-3. Input the IP and port to connect to the camera in the network.

5. RTMP live streaming

5-1. Input “[http://\(ip\):8080](http://(ip):8080)” on the browser.

ex: <http://192.168.0.2:8080>

5-2. Log in by the default account and password: admin / admin

User Account :	<input type="text" value="admin"/>
Password :	<input type="password" value="....."/>
<input type="button" value="Login"/>	

5-3. Go to RTMP Configuration. Select “on” and input the server URL and streaming name / key and click Apply.

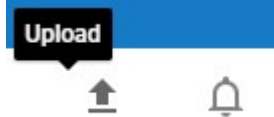
RTMP Configuration	
Live Streaming	<input checked="" type="radio"/> On <input type="radio"/> Off
Server URL/Stream Key	<input type="text" value="rtmp://live-360.facebook.com:80/rtmp/1586"/>
<input type="button" value="Apply"/>	

5-4. Wait until the live streaming page on PC get the streaming.

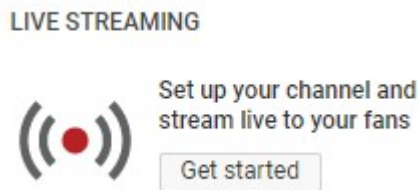
You can get 360 live URL/Key from YouTube or Facebook.

YouTube 360 live streaming

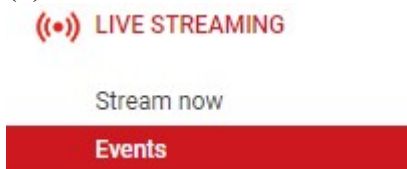
(1) Log in to YouTube by PC and click Upload.



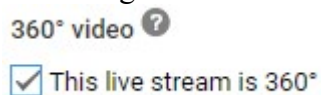
(2) Click “Get started” of live streaming.



(3) Select “Events” and click “Schedule a new event”.

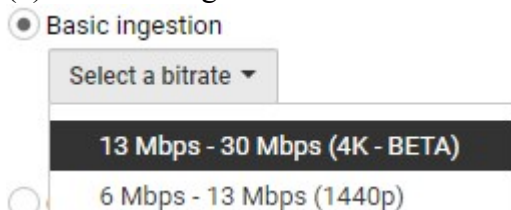


(4) Input a title in Basic info, and check “This live stream is 360°” in “Advanced settings”.



(5) Create event.

(6) Set basic ingestion of main camera.



(7) Select other encoders.

Other encoders ▾

1. Configure your encoder

[Recommended settings](#)

2. Copy and paste into your encoder

Enter the stream names and URLs in the configuration options of your encoding software.

Stream Name

0x4c-b6hv-dw56-ezqx

Primary Server URL

rtmp://a.rtmp.youtube.com/live2

(8) Copy the [Primary Server URL/Streaming Name]

Ex: rtmp://a.rtmp.youtube.com/live2/0x4c-b6hv-dw56-ezqx

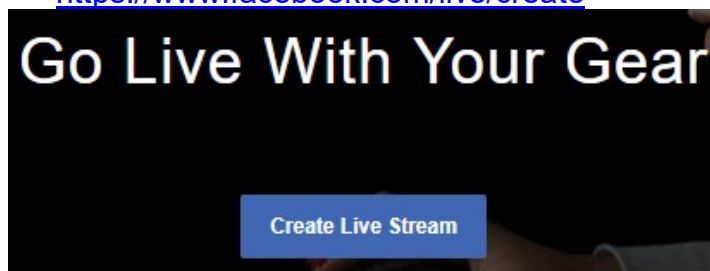
(9) Paste / input the [URL/Streaming Name] to the Live Url of Aleta Viewer's live broadcast configure.

(10) Click "Live control room". After receiving the streaming you can start to stream.

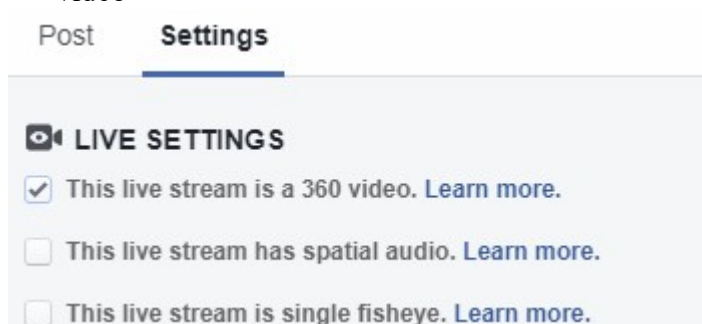
4. Appendix 2. Facebook 360 live streaming

(1) Go to Facebook Live page on PC to create live streaming

<https://www.facebook.com/live/create>



(2) On the right side of the page, click "Settings" and check "This live stream is a 360 video"



(3) Copy Server URL and Stream Key

1. Choose where you want to post your broadcast on the right.

2. Enter the information below into your software's settings.

Secure connection (SSL) ⓘ

Server URL ⓘ

rtmp://live-360.facebook.com:80/rtmp/

Stream Key ⓘ

254592958397727?ds=1&s_l=1&a=ATitUSiMB3VwFI4d

Ex: rtmp://live-360.facebook.com:80/rtmp/254592958397727?ds=1&s_l=1&a=ATitUSiMB3VwFI4d

(4) Paste the ULR + Key to Url of Aleta Viewer 's live broadcast configure.
Wait until the preview shows up and you can start the streaming.

***The steps might be slightly different since the websites keep updating the functions.**