3D-Con 2024 QooCam EGO Camera Workshop

Gene Mitofsky

National Stereoscopic Association

Photographic Society of America – 3D Division Star Ratings Director APSA PPSA International Stereoscopic Society

Photo West Arizona

Chicago Stereo Camera Club

Co-host, 3D-Con 2022-4 SSA Convention Exhibition

The following are my own observations, solutions and procedures and I am sure there are other ideas, opinions, and ways of doing things with the camera and any software mentioned (not endorsed).



Hi Everyone,

I am Jiawei, Chief Growth Officer at Kandao Technology. Kandao is dedicated to developing cutting-edge imaging products and pioneering advancements in the world of 3D VR cameras, VR technology, and Ultra-HD conferencing cameras.

We're thrilled to be part of 3D-Con once again and have Gene representing Kandao to introduce our latest innovation in 3D, the QooCam EGO – a stereoscopic camera with an integrated viewer. This innovative camera comes equipped with a viewer, allowing users to instantly immerse themselves in the captivating world of 3D videos and photos right after capturing them.

We were excited to witness Apple's release of Vision Pro to the market, which helps draw more and more people into the world of 3D imaging. The QooCam EGO is a cost-effective and simple to use 3D camera to capture and playback content in the Vision Pro. We have developed our Kandao XR app to make it easy for users to share content to their VR headsets.

As a token of appreciation for your support, we're delighted to provide one free QooCam EGO as a giveaway, along with special discounts for every attendee.

Once again, we extend our gratitude to Gene and 3D-Con for inviting us to be part of this event. We are confident that 3D-Con 2024 will be a resounding success. We hope you thoroughly enjoy the event!

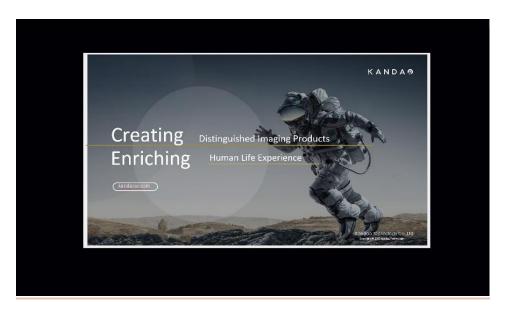
Thank you!

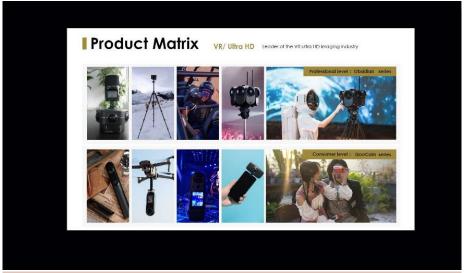
THE COMPANY

https://www.kandaovr.com/

Kandao is a VR research and hardware startup focused on creating next-generation imaging products, enriching the human life experience. Driven by the development of hardware and software, Kandao is a pioneer in VR technology, Ultra-HD video cameras, and video conferencing cameras. Founded in 2016, it is the first Chinese company honored by the CES Best of Innovation award in the digital imaging category, and the first company to have its 12K 3D VR camera used to live-stream in 8K VR.

Shenzhen Kandao Technology is a national high-tech enterprise, and is selected as one of the "little giant" enterprises by the Ministry of Industry and Information Technology. Adhering to the mission of "creating distinguished imaging products, enriching human life experience", and driven by the mutual development of hardware and software, Kandao is a pioneer in the field of VR technology, Ultra-HD video cameras and video conferencing cameras. We set a new record for being the first Chinese company honored by the CES Best of Innovation Award in the digital imaging category, and the first Chinese company that won Japan Good Design Best 100 in the camera category. Over the years, we've earned many international authoritative awards such as CES Innovation Awards, iF Design Awards, Red Dot Design Award, IDEA Design Award, Japan Good Design Award, German Design Award。





Awards

Kandao Meeting Ultra 4K

360 AI Conference Host with Dual Touchscreens





iF DESIGN AWARD 2022 DESIGN AWARD is annually conferred by the iF International Forum Design, which is one of the world's most prestigious industrial design organization from Germany. The 3D camera, QooCam EGO which is released by Kandao in 2022, and Kandao Obsidian Pro are honored by iF DESIGN AWARD 2022 for their unique idea of design and their outstanding functions.

The Red Dot Design Award 2022 The Red Dot Design Award was organized by Design Zentrum Nordrhein Westfalen, the most prestigious design association in Europe, in 1995. It is known as one of the four world's major design awards with "iF Design Award", "International Design Excellence Awards (IDEA)" and "Good Design Award".

IDEA The International Design Excellence Awards (IDEA), established in 1980 by the Industrial Designers Society of America, enjoys a worldwide reputation. Its rigorous evaluation criteria includes design innovation, user benefit, social impact, etc. Kandao Obsidian Pro, a 12K 3D film-level VR camera, is the honoree of the IDEA Bronze Award; Kandao Meeting Pro 360°, an intelligent video conferencing camera, wins the Best in Show Award.

CES Innovation Awards 2022 CES 2022 Innovation Awards is an influential competition honoring remarkable design and engineering in 27 product categories. All submissions are rigidly reviewed by 83 leading experts in consumer technology, industrial design, engineering, and media. Kandao Meeting S won the CES Innovation Awards 2022 for the perfect combination of innovative technology and appealing industrial design.

Good Design Award The Good Design Award, founded in 1957 by the Japan Institute of Design Promotion, has a history of nearly a half-century. It is recognized as the most authoritative and influential design award in Asia, known as the "Oriental Design Oscar Award". It is recognized as one of the 4 major international design awards along with the Red Dot Design Award, iF Design Awards, and the IDEA Design Award.

Good Design Award 2021 Best 100 Japan Good Design Award, as one of the 4 major design awards in the world, attracted a total of 5835 products to hit the stage in 2021. Kandao Obsidian Pro stands out with superb craftsmanship and remarkable performance. It is our honor to be named Good Design Best 100 alongside globally well-known brands such as Canon, Sony, Fujifilm, and Sigma. This award made us the only Chinese camera enterprise that earned Best 100 during the past 46 years since foreign companies joined the competition.

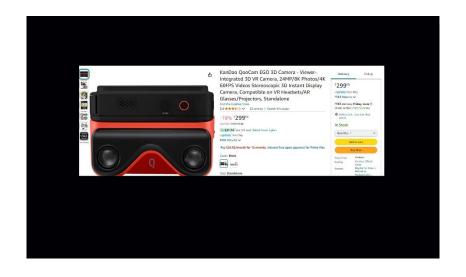
iF Design Awards 2021 iF Design Awards, abbreviated as "iF", was established in 1953. The award is regularly held by iF Industrie Forum Design, the oldest industrial design organization in Germany. It is famous for its "independent, rigorous and reliable" award concept and aims to enhance the public's understanding of design. Kandao Meeting Pro won the iF Design Awards 2021 for its unique design style and exquisite craftsmanship.

CES Innovation Awards 2021 CES Innovation Awards is set for 29 categories of consumer electronic products to recognize the outstanding achievements of consumer electronic products in design and engineering. It is the most important award in CES exhibition. Kandao Meeting pro and Kandao Obsdian Pro won the CES Design Awards in 2021 with their unique design style, exquisite craftsmanship and top technology.

The Red Dot Design Awards 2021 The Red Dot Design Awards is recognized as an international symbol of creativity and design. Winning the award means that the appearance and texture of products have won the most authoritative "Quality Assurance". Kandao Meeting Pro won the 2021 red dot design award for its excellent performance, exquisite workmanship and proud quality. FIRMWARE Updates







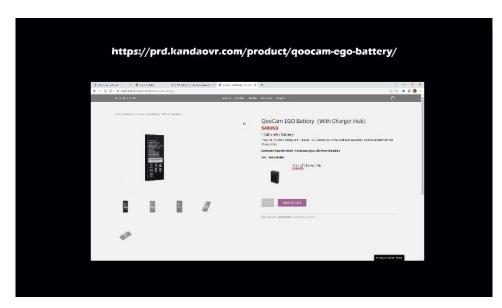


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For July 19 to July 31 only \$279 - Save \$20 https://drive.google.com/drive/folders/ 1wnJJ9J70li8BVuG1Sbw5rwPjKB79stlR? usp=sharing

Save \$20 bringing it to a very low price ONLY July 19th to July 31st

ACCESSORIES







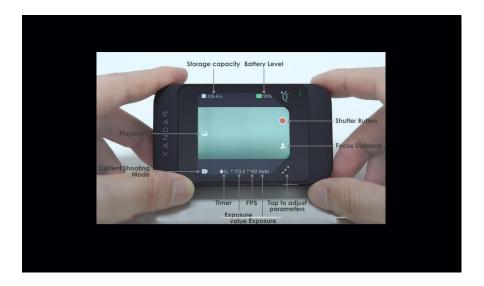




EGO internal battery = 1340 mAH, PG 6X Handle/battery = 6000 mAH Make sure to get the exact chip they recommend, this chip is the most successful when updating the camera. You can purchase the camera or better yet, purchase the "kit" which included the correct chip.

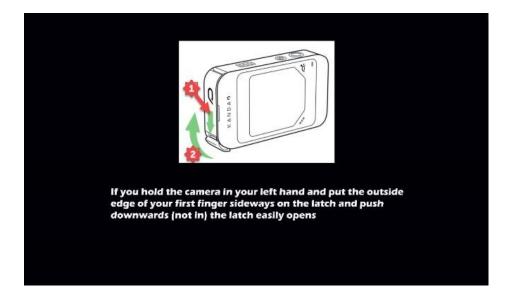
THE CAMERA - GETTNG STARTED

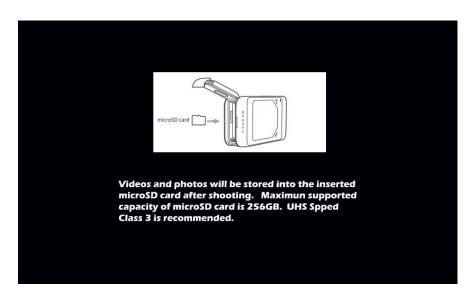




The hatch is in fact in two parts: you have first to slide down the bottom part (green arrow #1) then lift the door upwards (second green arrow)

If you hold the camera in your left hand and put the outside edge of your first finger sideways on the latch and push downwards (not in) the latch easily opens

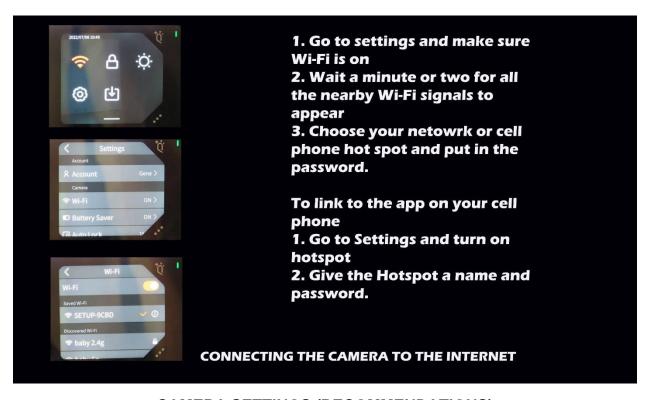




Using a Sandisk Ultra 128GB Micro SD card, I was able to record for 3 hours 26 minutes continuously in 4K.







CAMERA SETTINGS (RECOMMENDATIONS)



Auto Lock turns the screen off, as fast as 1 min.

Touching the power button turns it on and the camera is ready to shoot right away.

Auto Shutdown turns the camera off. The fastest time is 5 minutes, I am using 10.

I do not turn the camera off, just put it in my pocket.
I might pull it out in a minute or two, it is ready to take pictures.
If I don't take a picture for 10 minutes, then it will shut off and I have to go through the lengthy turn on process.

This seems to be a good compromise between saving battery and having the camera ready to shoot. Experiment to find your own best settings.

George



If you are using the camera in low-light situations in AUTO mode, be prepared to get blurry pictures.

AUTO mode drops the shutter speed until it bottoms at 1/15s (the lowest speed the camera uses). Impossible to hand hold

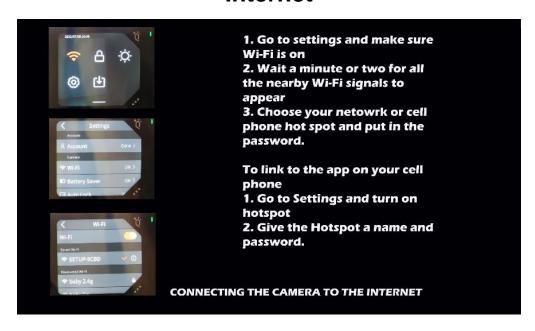
Change AUTO to Sports mode 1/120.

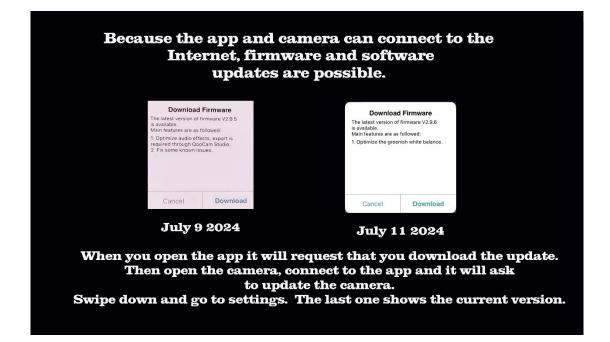
Outside on a sunny day, the shutter speed of 1/120 is irrelevant. The camera will use higher shutter speeds at the lowest ISO (100).

As the light drops, the 1/120 will become relevant and important for getting sharp shots. The speed will drop until it reaches 1/120 and then the ISO will increase until it hits the ceiling, then the speed will drop to 1/15, in that order.

George

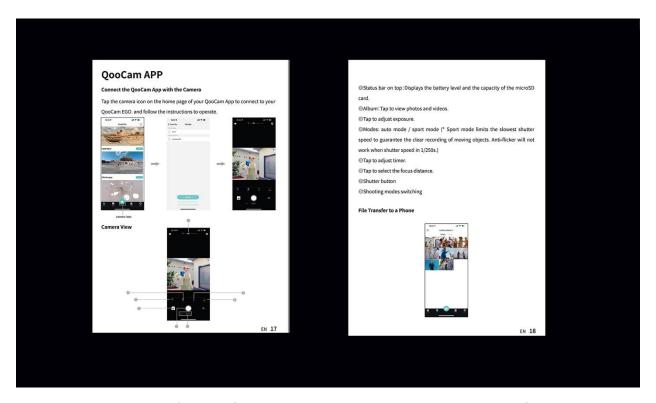
Internet











One handy feature is you can use your app as a remote trigger.

Shooting

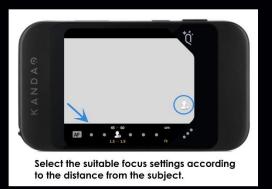
TIPS TO SHOOT SHARPER PHOTOS WITH QOOCAM EGO

- 1. The camera is very lite so slight hand movements can affect the focus. The default setting is "AUTO". (If you choose sport mode, the slowest shutter speed and I use it only for indoor photography. Use "SPORT" mode for most photography.
- 2. The shutter dot requires only a VERY slight touch to trigger the shutter. If you don't have a very light touch, I recommend using the 3 sec. timer and possibly a tripod if possible.
- 3. Plan ahead. The camera shoots at 28mm so compose your shots and consider cropping in post production.
- 4. Autofocus is really selective focus. You can use autofocus or manual focus (for manual I use 1 less than maximum for landscape and 1 more than the more than minimum for close up, but use autofocus.



Swipe up
Auto is set at 1/15 sec
Sport setting is the best for handheld

Swipe from right distance setting or Auto (select) focus





DNG Shooting

Non-Destructive Editing Features

Another advantage of the DNG format is its support for non-destructive editing, which allows photographers to make adjustments to their images without altering the original RAW data. Instead, the edits and adjustments are stored as metadata within the DNG file, which can be read and applied by compatible software.

Non-destructive editing provides several benefits, including the ability to revert to the original image data at any time and the ability to apply different edits and adjustments to the same RAW data without creating multiple copies of the file. This can save time, storage space, and ensure that the highest image quality is preserved throughout the editing process.

DNGs are easier to edit.

Editing a RAW file can be a challenge. You'll need to use a sidecar or convert them to other formats first. A sidecar is a separate XMP file that contains all edits, changes, and settings. Essentially, this creates a separate file so the original RAW file remains completely untouched and unchanged. Sidecars are small, but they also mean that every RAW file is effectively stored as two files.

With DNGs, edits and changes are written directly into the file. This leads to fewer files for storage, but also strips out information that you can't recover later.

Quality and file size.

DNG files are generally 15-20% smaller than RAW files, but the difference in quality is minimal. A DNG file can also save the original RAW file within itself. This doubles the size, but is also a nice safeguard.

DNG files also strip out select information to decrease the size and simplify storage and editing. This may include JPEG previews, GPS information, metadata, and certain camera models' focal points, lighting, and picture controls.



Same photos, jpg vs dng file sizes

Name	Date modified	Туре	Size	
🚾 107.jpg	4/3/2024 4:33 PM	FastStone JPG File	10,966 KB	
■ 107.png	4/3/2024 4:34 PM	PNG File	46,815 KB	
107.psd	4/3/2024 4:34 PM	Adobe Photoshop	70,348 KB	
1007_20240403_110439.dng	4/3/2024 4:32 PM	DNG File	54,801 KB	
1007_20240403_110439.jpg	4/3/2024 4:04 AM	FastStone JPG File	7,330 KB	
1011_20240403_110956.dng	4/3/2024 4:09 AM	DNG File	53,760 KB	
1011_20240403_110956.jpg	4/3/2024 4:09 AM	FastStone JPG File	5,876 KB	
1014_20240403_114403.dng	4/3/2024 4:44 AM	DNG File	55,808 KB	
1014_20240403_114403.jpg	4/3/2024 4:44 AM	FastStone JPG File	7,971 KB	
1016_20240403_124655.dng	4/3/2024 5:46 AM	DNG File	53,248 KB	
1017_20240403_124728.jpg	4/3/2024 5:47 AM	FastStone JPG File	5,418 KB	
1018_20240403_124753.dng	4/3/2024 5:47 AM	DNG File	53,248 KB	
1018_20240403_124753.jpg	4/3/2024 5:47 AM	FastStone JPG File	5,579 KB	

You won't see a difference but with the larger file size you have more data for post production.



dng

jpg



DNG stands for Digital Negative, and it's an open-source raw image format for digital photography developed by Adobe in 2004. DNG files store uncompressed image data from digital cameras, including standard EXIF metadata, date, time, camera used, and camera settings. DNG files are generally 15-20% smaller than RAW files, but the difference in quality is minimal. DNG files are ideal for storage and archives, and the United States Library of Congress uses DNG files for this purpose.

You can create and edit a DNG file in Adobe Photoshop by selecting the File menu, then Open. To save as a DNG file once you've finished editing, go back to the File menu and select Save Qoocam EGO now supports shooting photos in Raw DNG mode (as opposed to JPG).

DNG photos have better image quality and are much more flexible when editing in postprocessing.

To get DNG mode, you need to upgrade the firmware to version 2.8. 10 or later

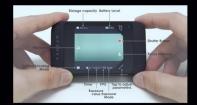




Shooting tip! I put an EGO on a tripod and shot a video of a Golfcar charity parade



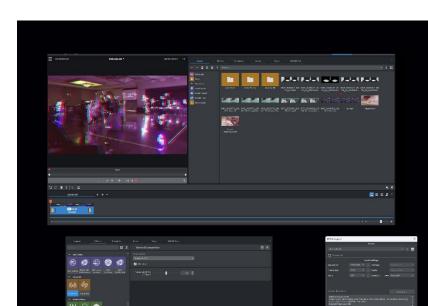
Change from still to video QooCam EGO outputs 3840*1080 MP4 video



Using Qoocam studio
I can capture a frame and then
in SPM create a mpo or single image.







Magix

Load mp4 set to 3D create movie

Spatial Video Support

In addition to Raw DNG photo support, Qoocam EGO can now convert its photos and videos to spatial photo or spatial video format for viewing on Apple Vision Pro or Quest.

To convert your photos and videos, you'll need to download an converter app.



APPLE VISION PRO

Welcome to spatial computing.

From \$3499 or \$291.58/mo. for 12 mo.+





QooCam EGO spatial video and photo converter

Converting QooCam EGO videos and photos to spatial videos and photos. macOS 14 or above is needed.



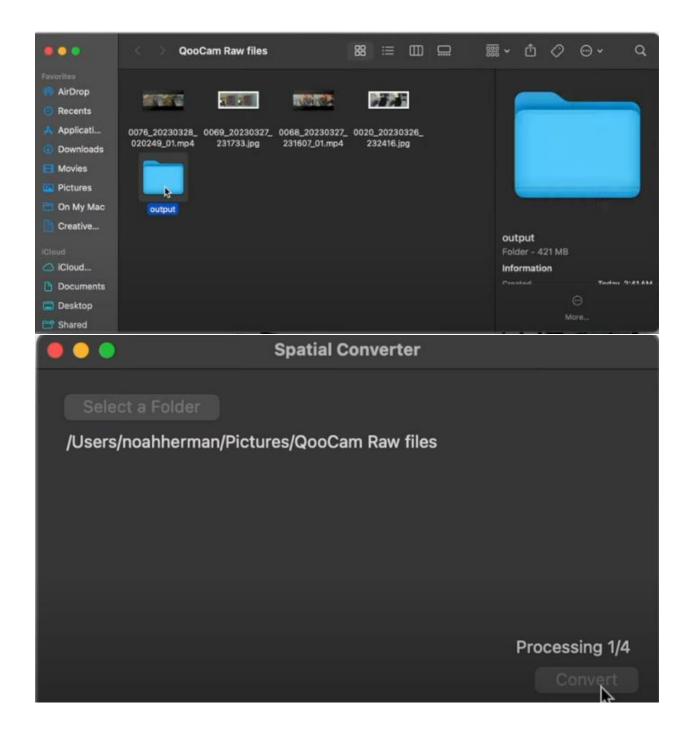
MAC OS 2.0.1 2024-03-26

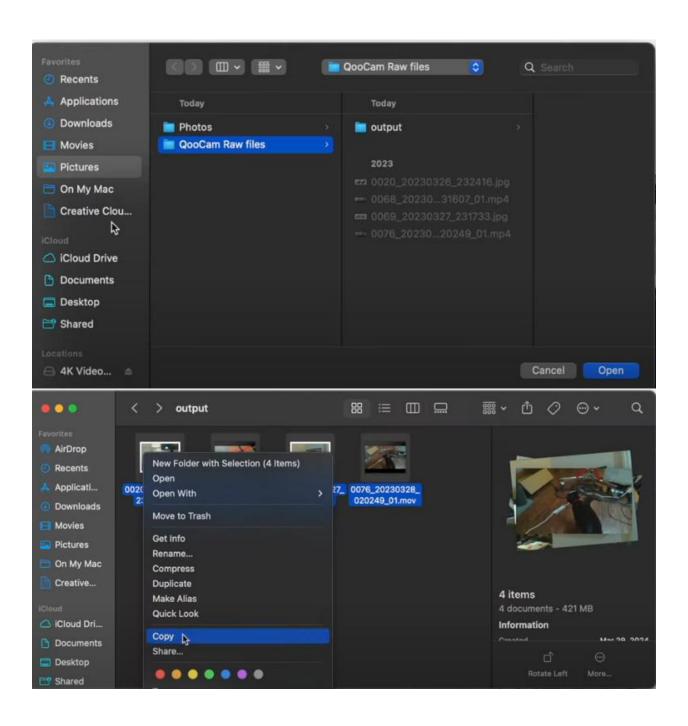
Download

Update

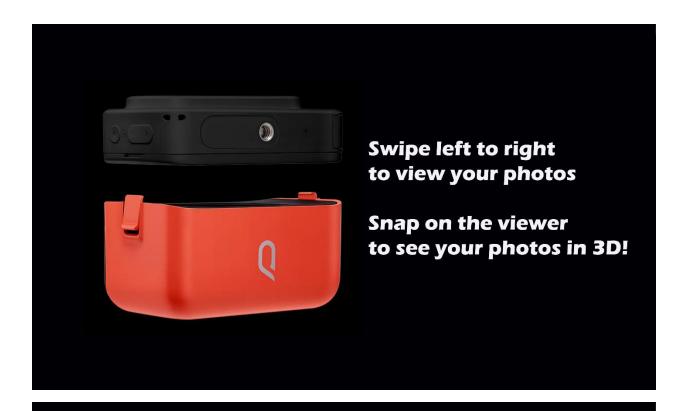
MAC OS 2.0.1

1. Optimize icon size





Viewing



Autoplay Mode

Autoplay is particularly useful when you're using the viewer, as it allows you to automatically play through all of your media files in a slideshow.

You can customize the settings to change the speed of the playback, making it a personalized experience.





Saving



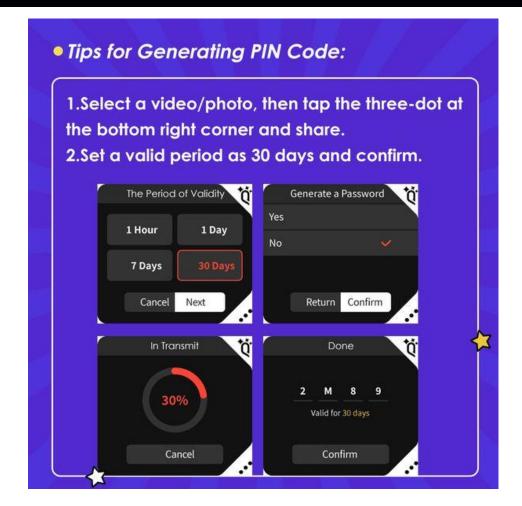
SHARING



Our Video-talkie in-cam chatroom lets you send video to your EGO partner without connecting the phone, or you can share your fantastic work with all users via QooCam app. Sharing photos and videos

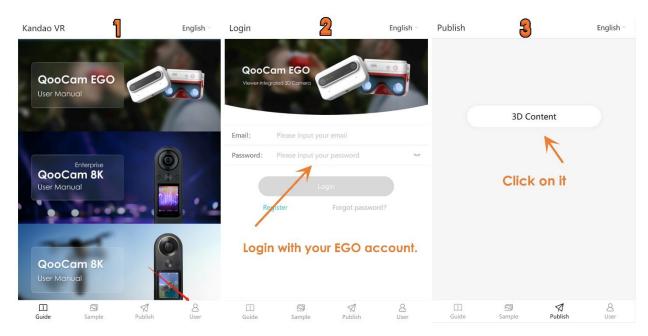
Share by uploading to the cloud and generating the unique PIN code

Connect your camera to the Internet via through a network or thought your cell phone's hot spot





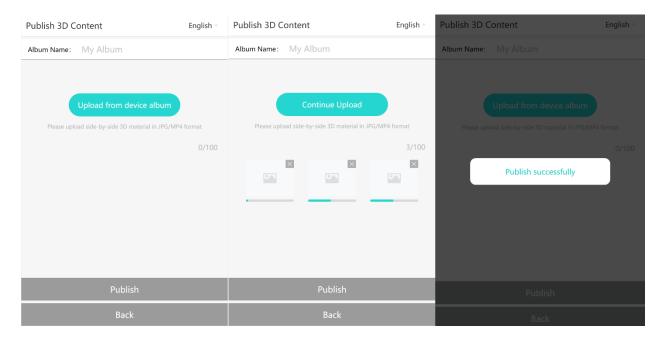
- 1. You can find Kandao VR Mini-program on WeChat or you can visit the corresponding website at https://wechat.kandaovr.com/ if you don't use it.
- 2.Login with your QooCam EGO account.
- 3.Click on "Publish" in the navigation bar and select "3D Content" on the page that appears.



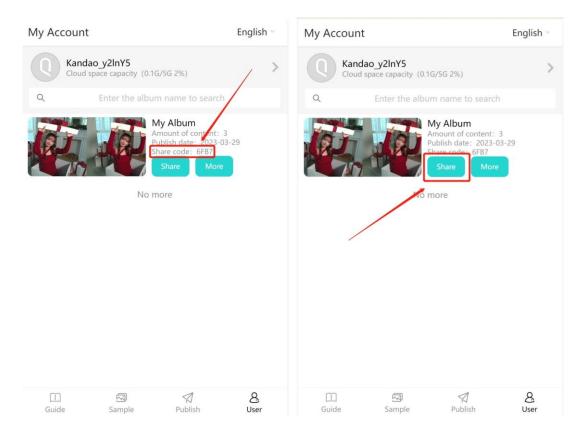
4.Fill in the "Album Name" (not necessary) and upload your MP4/JPG format videos/images from your PC or mobile device by clicking on "Upload from device

album."

5. Once the files are uploaded, click on "Publish" to complete the upload.



6.After successful publishing, you can find all the albums you have uploaded on the User page. Each album comes with a 4-digit sharing code. You can edit or delete albums as needed.



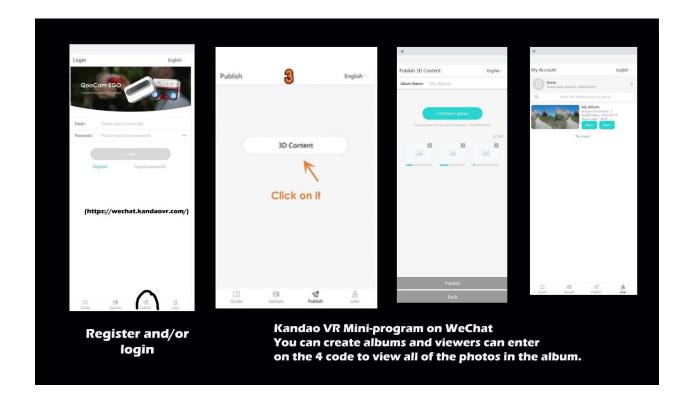


7.Turn on your QooCam EGO and connect to Wi-Fi or Hotspot. Swipe down from the top of the screen and tap on the download icon. Enter the sharing code, and you can enjoy the content you uploaded.



This method, suggested by QooCam EGO's CEO Dan Chen, is a quick and easy solution that saves time and is convenient especially when you want to view 3D content on the EGO after post-production with other software.

It's a great way to share your QooCam EGO content with your friends and family, or even with the wider QooCam Community. Happy sharing with just a few clicks!



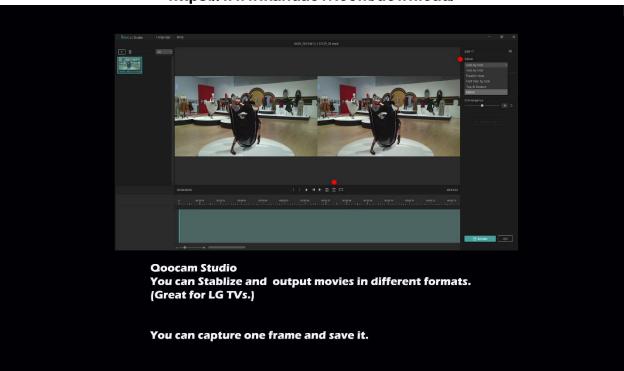
Video Stabilization

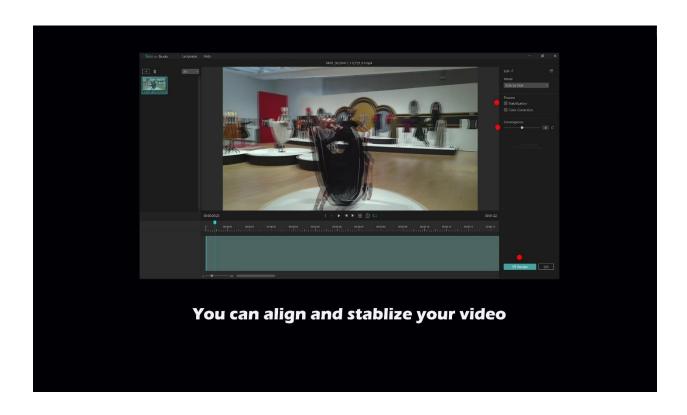


After recording the video, tap the three-dot button at the bottom right corner and select "Anti-shake" to stabilize your video.

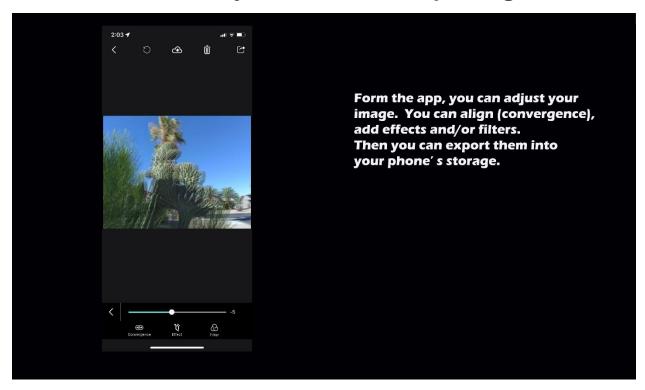
Qoocam Studio

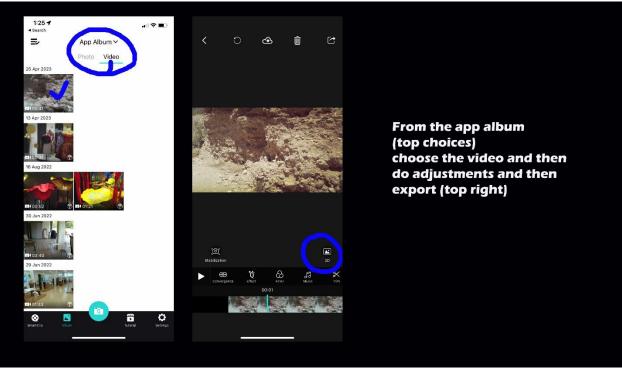
https://www.kandaovr.com/download/

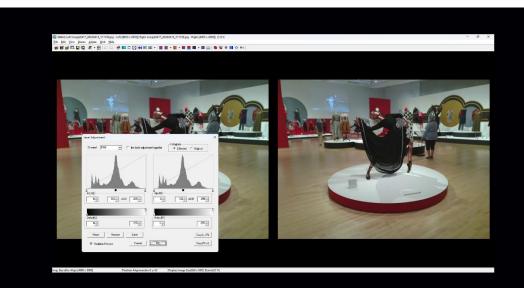




Other Adjustments and Exporting







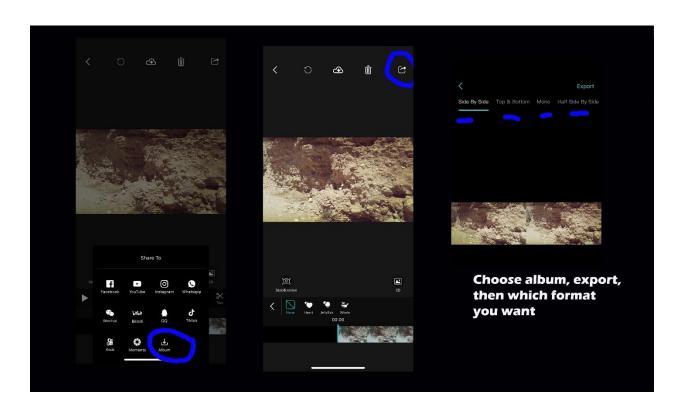
I used Stereophoto Maker for alignment, setting the window and color adjustments.



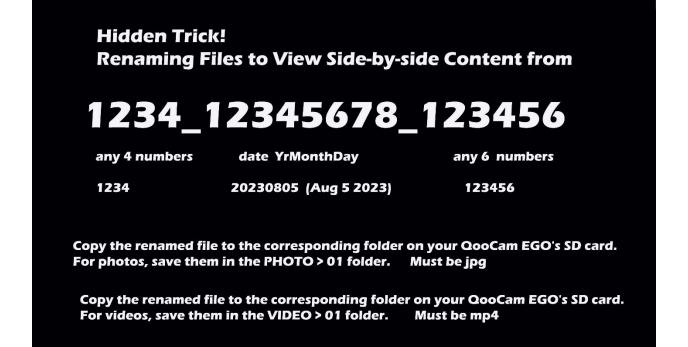


Exporting a video from the App, you have several choices.

Half side by side is best for the LG 3D TV Sometimes you want to convert and share your video in 2D



RENAMING OTHER PHOTOS



Additional tips and procedures

For pictures

- Connect EGO to computer by wire (or chip)
- Copy from EGO folder to Computer folder
- Open Stereo Photomaker to align, etc and output as MPO Or in the Q app, convergence.

For video - To stabilized mp4 video

- copy from EGO folder to Computer folder
- Open QooStudio to stabilize and render mp4

Magix software will export to an anaglyph format.

- Download to computer, then with Qoostudio, stabilize the video
- Load the mp4 into Magix , and in the popup choose "don't activate 360"
- Highlight the video in the timeline, go to effects Video objects, then 3D, then properties
- In the right side popup, choose SBS full width, left first
- Then export mp4 and choose anaglyph (or many other choices)

For half frame LG TV -Two methods

- with Magix movie software
- through EGO software and app.

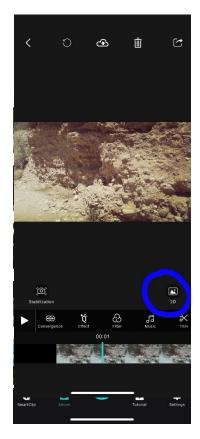
Connecting EGO to cell phone app

- Go to videos, hold to check, choose camera album (top) and download (to app)
- On app, on top, pull down for APP ALBUM
- Tap to go to edit (upper left icon)
- Click the share icon, then choose album
- Next screen will ask for format, choose what format you want (half, sbs, etc)
- It will export to your cellphone albums
- Then transfer from cell phone to computer

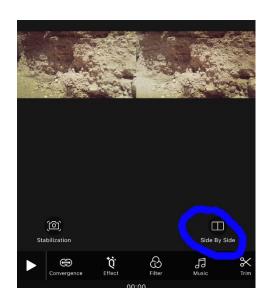
Load Magix to convert to anaglyph

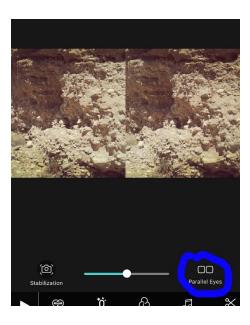
Export from app to Iphone (then from Iphone to compter)

After connecting the camera to the app and saving the video, go to the app, and from the top, pick video album, and select video. Half frame is for LG 3D TV

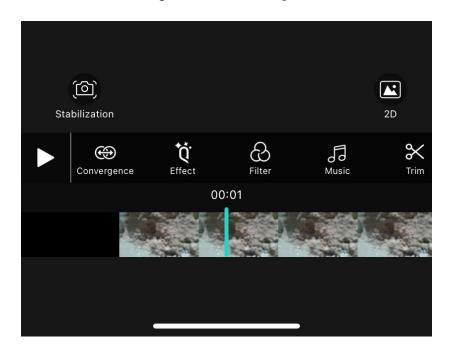


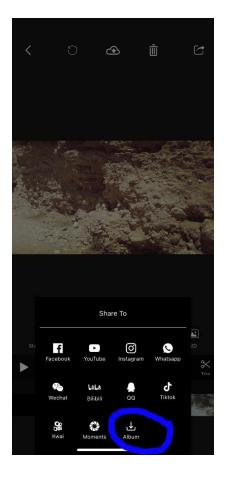
You can change the view from 2D, to Parallel to SBS

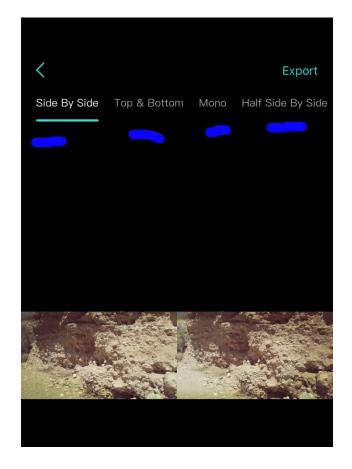


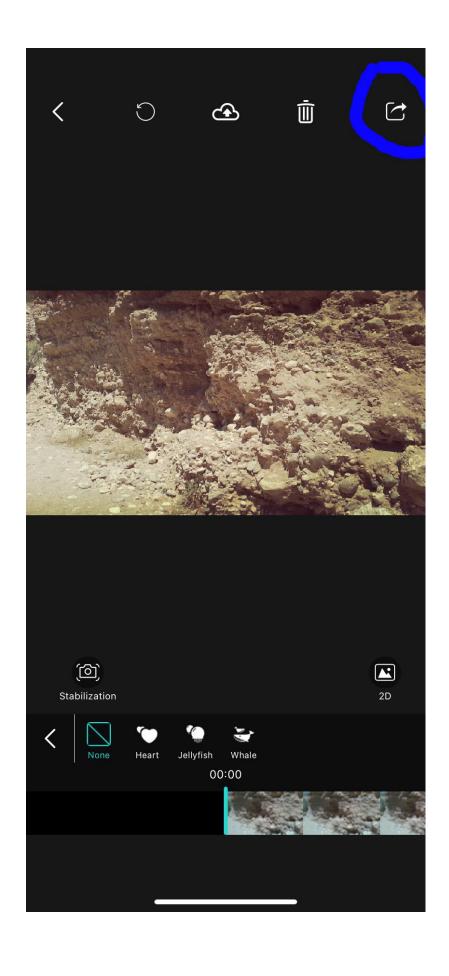


Other adjustment options







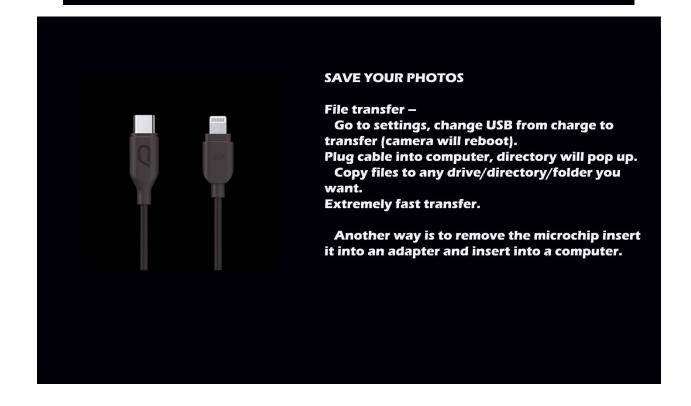


For LG TV half frame

EXPORT video FullSBS or HalfSBS

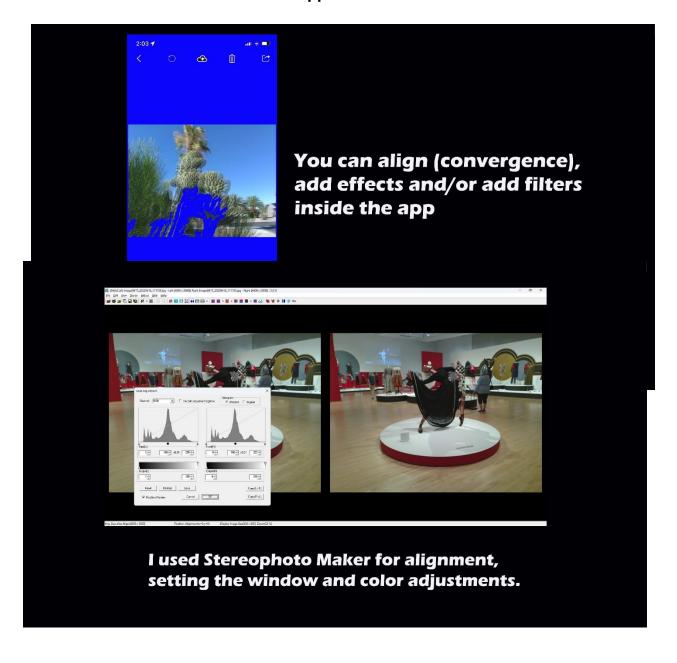
LG TV success! EGO to Computer to LG TV

- 1. Connect camera to app
- 2.In view mode select video (or photo)
- 3. Click lower left icon or Home then albums to view camera content
- 4. Select one, it will ask download to app album -download
- 5.Go to app album (pull down)
- 6. Select photo/video
- 7. Upper right icon to download
- 8. Many choices, pick Album (bottom row)
- 9. Choose format (SBS halfSBS etc) FOR LGTV CHOOSE HALF SBS)
- 10. Click export it goes to your cellphone picture directory
- 11. Connected cellphone to computer, downloaded video computer
- 12. Downloaded video from computer to flash drive
- 13. Inserted into LG 3D TV and works great!



ALIGNING

You can use the app or Stereo Photomaker



Another Kandao product. Not 3D but a fun, not expensive camera you might be also interested in.

New Kandao product QooCam 3





Not a 3D camera, but a fun not expensive camera that you might also be interested in.

KanDao QooCam 3 Action Camera with Dual 1/1.55" Sensors, 5.7K 30FPS 360 Sports Camera, HDR Video, 62MP Panoramic Photo, DNG8, F1.6 Large Aperture, Stabilization, Waterproof, Superior Night Shot





Amazon: will offer a price of \$299 with a free battery for QooCam EGO from **July 19th to July 31st.** (The price in the link will be changed without the need for a coupon code during that period)

- Kandao Official Store: will offer a price of \$279(\$60 OFF) for QooCam EGO from **July 19th to**

July 31st. (Coupon code: 3DCON)



Amazon



Code: 3DCON

LINKS

2024 new Workshop links

DNG and Spatial Video support

https://us.kandaovr.com/blogs/news/qoocam-ego-renewed-upgrade-capturing-infinite-spring-moments

https://360rumors.com/qoocam-ego-raw/

2024 Workshop links

Kandao company ad https://prd.kandaovr.com/product/qoocam-ego/?gclid=CjwKCAjw_ISWBhBkEiwAdqxb9mH3lueKR26IDMKkTV_vTsYQN37F3c
LiRepOaKDOKkKQZs4MJUDmeRoCc48QAvD_BwE

EGO camera Launch https://youtu.be/WA2n4DYbIAI

EGO camera quick start manual and video https://www.kandaovr.com/user-quide/

Stereoscopic Blog https://stereoscopy.blog/2022/06/08/straight-from-the-box-review-qoocam-ego-a-new-digital-stereo-3d-camera/

Firmware update https://www.kandaovr.com/download

Yuqing Guo review https://www.youtube.com/watch?v=IT6I6-WTAf4&t=44s

https://www.youtube.com/watch?v=IJpO5LVD6vs&t=564s

New features 2023 https://www.youtube.com/watch?v=IJpO5LVD6vs

EGO review https://petapixel.com/2022/02/08/the-kandao-qoocam-ego-shoots-and-displays-3d-photos/

EGO lphone app https://www.youtube.com/watch?v=99-WP8Hqw71

EGO Sharing https://ww0.kandaovr.com/resource/ego_to_ego_en.mp4

WhChat batch sharing https://us.kandaovr.com/blogs/news/file-sharing-in-qoocam-community?fbclid=lwAR2ISywlg5y3PxHfptE69hVbv4dLUCEINWU-hVeqIPxFf-JIJMRNsEF0R9w

https://wechat.kandaovr.com/

New Features 2023 https://us.kandaovr.com/blogs/news/new-firmware-for-goocam-ego

Quick start instructions https://youtu.be/NxcTwyPKp50

Mgiguser camera review https://www.youtube.com/watch?v=AofZsdkMw9A

Shotting tips https://us.kandaovr.com/blogs/news/shoot-sharper-photos-with-qoocamego

Update https://us.kandaovr.com/blogs/news/new-firmware-for-goocam-ego

Firmware video https://www.youtube.com/watch?v=xnrtlKTnjig