Eagle Eye-30IE-lite

30X EO/IR Gimbal With Daylight Zoom And Thermal

Warning and Disclaimer

Make sure not to adjust the gimbal or change its mechanical structure by yourself.
Be sure tomount the camera to gimbal before power on,and then install the gimbal on the aircraft.
To avoid gimbal performance degradation or damage caused by imbalanced payload,please do not add otherperipherals for the gimbal camera (filter,hood,etc).
When in aerial photography,make sure your aircraft flight control system is working at the safe mode.
We strongly recommend that you remove aircraft propellers before doing gimbal configuration.Use extranon-power battery for gimbal.Keep children away from the preset flight region.
Considering that we are not able to control user's specific usage,installation, assembly,modification(including the use of non-specified parts),and improper use. Direct or indirect damage or injurycaused by the behavior above, our company will not cover any loss and responsibility.

Gimbal description

1. CAN

2. Quick release button

3. SD card slot

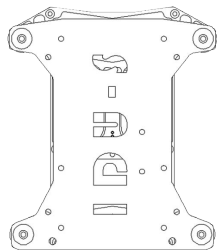4. Thermal Camera

5. 30X zoom camera

⚠ Please make sure that the motor is not stopped by any object during the rotation, if the gimbal is blocked during rotation, please remove the obstruction immediately.
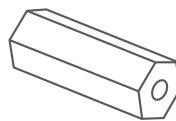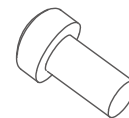
Packing List

| Gimbal camera*1 | iRack board with mounting plate | Copper cylindersr*4 | Button head hexagon screw*16 |

5mm*12   8mm*4

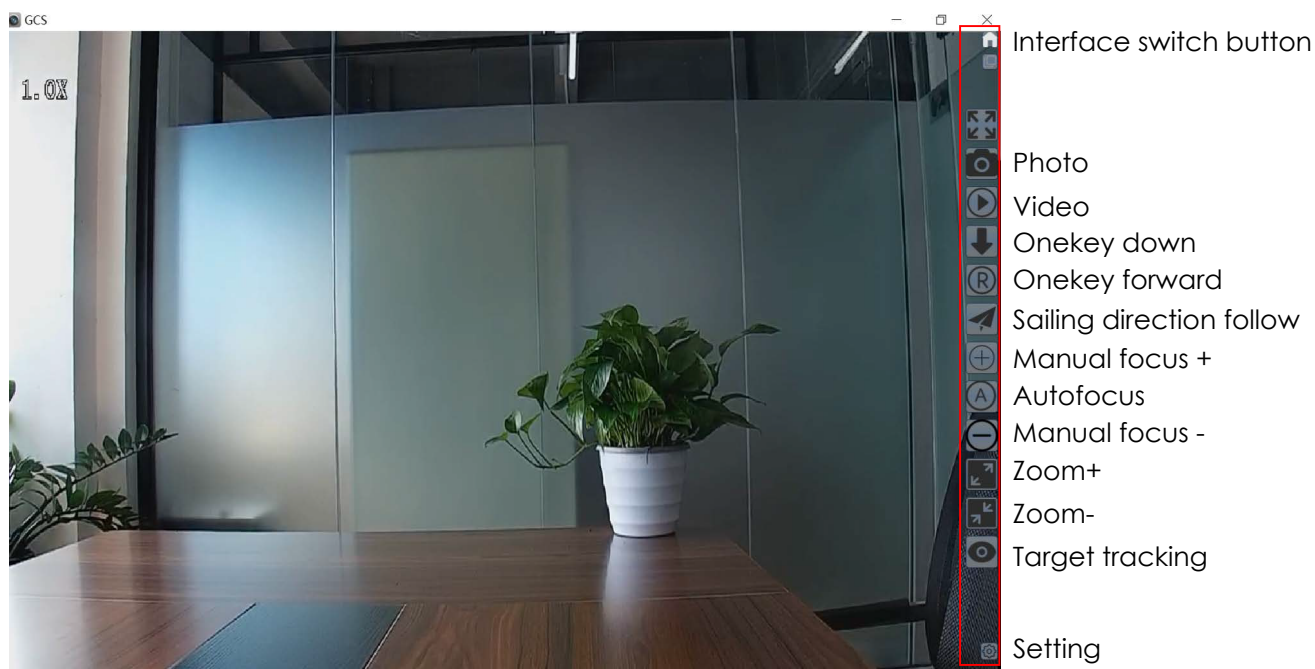# Description of control software

Installation preparation

- **Types of devices supported for installation**： Windows 64 bit system tablet computer

  Software download address: https://drive.google.com/file/d/1ijkc_rbxrpT-

  E1v9e1oF_sx05TAQ5w9G/view?usp=sharing

Software instructions

Operation interface

- Interface switch button
- Photo
- Video
- Onekey down
- Onekey forward
- Sailing direction follow
- Manual focus +
- Autofocus
- Manual focus -
- Zoom+
- Zoom-
- Target tracking
- Setting

Connect

1) Preparation.

After the software is installed, make sure that the gimbal and data link (sky and ground) work normally. After the network cable is connected to the computer, make sure that the computer is not connected to WiFi. Through local connection → properties → internet protocol property 4 (TCP / IPv4) → general settings → use the following IP address: (different data link settings are different, see the corresponding data link user manual for details) → confirm

- **5g data link:** (you can also choose to get the IP address automatically, but please make sure that the WiFi of the computer is turned off and no other network is connected
- **IP address:** 192.168.42.10 subnet mask: 255.255.255.0 default gateway (ignored)
- **IP address:** 192.168.2.10 **subnet mask:** 255.255.255.0 **default gateway:** 192.168.2.129

2) After setting, open GCS software and click Connect to select the corresponding gimbal. When the image appears, all display control settings of the gimbal can be realized.

Operation gimbal

GCS gimbal software through the mouse, virtual buttons, USB game rocker to achieve all operations of the gimbal.

- **Tablet computer (or touch screen computer) mouse, virtual button operation:**

1) Course, pitch adjustment

Press and hold the left mouse button (the touch screen slides on the screen) and move up, down, left and right in the interface. The camera follows the mouse position. Release the left mouse button, the camera stops moving and remains in the current position.

2) Point zoom

Double click the left mouse button (double-click on the touch screen twice), double-click the position screen to move to the center of the screen, and zoom in twice to accumulate until the maximum focal length.
Sliding the mouse wheel can also control the zoom in and zoom out of the lens.
Click the right mouse button (the touch-screen finger will leave the hand after pressing the screen for about 3 seconds), and the screen will automatically return to 1x zoom.

3) Focusing

The camera default auto focus mode, when the picture background is complex, you can use the virtual keys "focus +" and "focus -" to manually focus.
If the picture is blurred for a long time, you can click the "auto focus" virtual button to focus actively.

4) Calibration

When operating in the environment with large temperature difference before and after flight (for example, the aircraft moves from indoor, vehicle to outdoor in winter). It is recommended to calibrate before flight to reduce heading drift.

5) Automatic tracking

Click the target tracking button, and then move the mouse to the real-time screen display area. Hold down the left mouse button and drag to select the desired tracking target area. After releasing the left mouse button, a box will appear,. The gimbal will automatically track the target in the box.

6) Calibration procedure

After the gimbal initialization is completed, it enters into normal working state. Click the virtual calibration button (set → calibrate), and the gimbal will enter the calibration state (showing that the PTZ motor does not work). At this time, make sure that the aircraft and pan tilt are in a static state (the pan tilt does not need to be kept level). After waiting for 5-10 seconds, the gimbal is reinitialized and the calibration is completed.

Keyboard operation

Direction: W, S, A, D   or
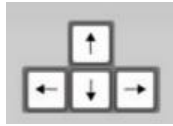
- Zoom: J, K
- Focus +: N
- Focus -: M
- B: Auto Focus
- Video: O
- Photo: P
- One click return: R
- One button down: X
- Follow the nose: H
- Visible light tracking (center tracking): T
- Thermal imaging tracking (center tracking): Y
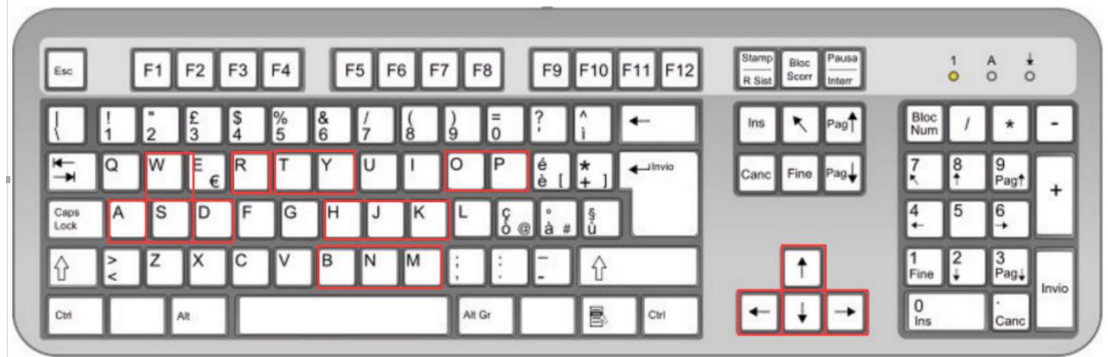
Game handle operation:

GCS supports USB game controller gimbal (the figure below takes Beitong bat DF btp-2126f as an example)

Manual focus +
Autofocus
Manual focus -

1. Photo
2. Video
3. Onekey down
4. Onekey forward

Zoom   gimbal up, down, left and right control

30X zoom camera	
Sensor	1/2.8 inch 2.16MP CMOS SENSOR
Video output	1080P/25 Ethernet
Video recorded	1080P/25 MP4
Photo resolution	2MP / JPEG
Focal length	30X optical focal zoom, 4.7-141mm
Digital zoom	4X(120X with optical zoom)
FOV	60°(wide end) ~ 2.3°(tele end)
Fog penetration	Electronic
Exposure	Auto-exposure
2D/3D noise reduction	Support (auto-on)
Electronic shutter	1/3 to 1/30000 seconds
Thermal camera	
Lens	19mm
Working system	Un-cooled long wave (8 μm~1 4 μm)
Detector pixels	704×576
Pixel size	17μm
Frequency	25HZ
Focusing	Athermalizing
FOV	Horizontal: 32°
	Vertical: 24.2°
	Diagonal: 39.4°
Detective Distance (Man: 1.8x0.5m)	559 meters
Recognize Distance (Man: 1.8x0.5m)	140 meters
Verified Distance (Man: 1.8x0.5m)	70 meters
Detective Distance (Car: 4.2x1.8m)	1714 meters
Recognize Distance (Car: 4.2x1.8m)	428 meters
Verified Distance (Car: 4.2x1.8m)	214 meters
Emissivity correction	Emissivity 0.01~1 adjustable
NETD	≤50mK(@25℃)
MRTD	≤650mK(@Characteristic frequency)
Image enhancement	Automatically adjusts image brightness and contrast
Color palette	White hot, pseudo color
Automatic non-uniformity correctionfunction	Yes(with or without shutter)
Digital zoom	Max 8x
Time synchronization function	Yes
Gimbal system	
Input voltage	12-25V
Rotate range	Pitch: -90°~+70°, Roll: -50°~+90°, Yaw: 360°
Angle amount of jitter	0.008°
Max gimbal speed	Yaw: 180°/s, Pitch: 120°/s
Control interface	S.Bus, serial command and software control via Ethernet
Power consumption	8.4W
Mechanical feature	
Total weight (gimbal and camera)	840g
Quick-release mechanism	Yes
Storage temperature	-20° ~ +70°
Working temperature	$-10°$ ~$+60°$