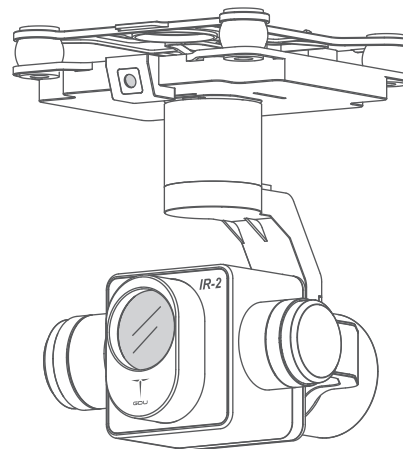


INFRARED CAMERA GIMBAL

USER MANUAL

V1.0



If you have any questions about this document ,please contact GDU after-sales center (+86 400-040-0266).

GTIR800

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Disclaimer

Thank you for using GDU products. To guarantee a quality user experience and your legal rights and safety, please carefully read this statement before using the product. Please adhere to the user guide while using the product. Improper use may cause harm to yourself and others or damage the product or other objects. Once you use the product, it means you have read and accepted the contents of this statement. GDU-Tech Co., Ltd is not responsible for any damage caused by improper use (including but not limited to: changing the product structure, dismantling the product, causing a short circuit, over heating, damage, etc.)

Product Features

Dual Light Source - Infrared + Visible Light

The GTIR800 Infrared camera can shoot using two different types of light. It supports light switching and picture in picture mode. Visible light can be used to guide the aircraft and infrared can be used to take pictures of the setting. It can effectively guide the aircraft and satisfy the client's infrared needs.

One Click Zoom, Manual Fine Focusing

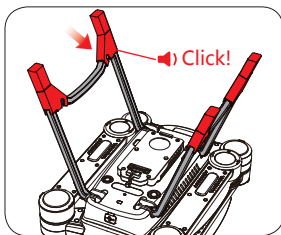
The dual light camera supports one click focusing. The infrared and visible light can form a clear picture of any object. To satisfy the requirements of more users, we have applied infrared fine focusing to the unmanned aircraft.

4 Imaging Modes

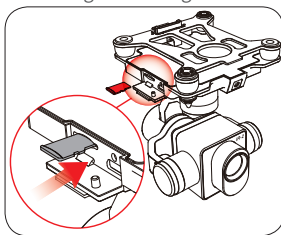
There are 4 imaging modes (infrared, visible light, infrared picture in picture, and visible light picture in picture). With picture in picture, infrared and visible light screens can be viewed simultaneously, providing the user with a different experience.

Product Installation

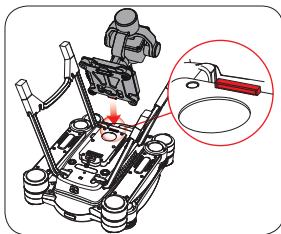
1) Please install the stands on the aircraft.



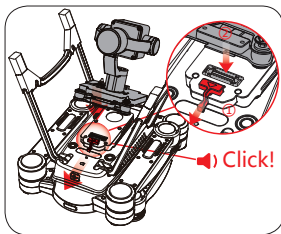
2) Please remove the lens cover and insert the SD card according to the diagram.



3) Please insert the gimbal fastening plate on to the front of the gimbal.



4) Please pull back the gimbal lock latch and press down on the gimbal.



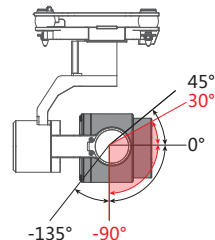
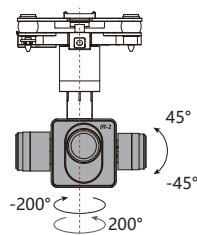
- ★ Before mounting the gimbal, please turn off aircraft power.
- ★ The lens cover can protect the camera when you are carrying it. Please remove the cover when using an aircraft.
- ★ When not using the gimbal, please attach the lens cover to protect the camera.
- ★ Do not move the aircraft when the gimbal is running self diagnostics.
- ★ Please insert/remove the SD card when the aircraft power is off.

Camera

The GTIR800 infrared camera can be used with the GDU SAGA series products. The gimbal uses the brand new position fusion control algorithm, creating a highly precise 3 axis stabilizing platform. The angle movement is $\pm 0.02^\circ$. This provides stable pictures and videos even when the craft is performing highly active maneuvers.

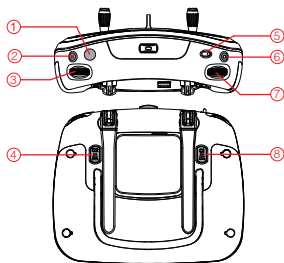
Active Range

The yaw structure angle range for the gimbal is $-200^\circ \sim +200^\circ$. The roll structure angle range is $-45^\circ \sim +45^\circ$. The pitch structure angle range is $-135^\circ \sim +45^\circ$. This guarantees a stable image when the aircraft is performing a wide range of maneuvers. The remote control can control the pitch and bearing of the gimbal. The adjustable range for bearing is $-180^\circ \sim 180^\circ$ and adjust the pitch angle of the gimbal from $-90^\circ \sim 30^\circ$. Users can quickly switch viewpoints.



Supported Functions

Using the GDU SAGA remote as an example, you can take photos or videos by using the photo and video controls. The left dial controls the yaw of the gimbal and the right dial controls the pitch of the gimbal. This allows the user to control the camera's field of view.



1. Gimbal Reset Button
2. Record Button
3. Gimbal Pitch Dial
4. Customizable Button C2
5. Flight Mode Switch
6. Shutter Button
7. Gimbal Yaw Dial
8. Customizable Button C1

GDU Flight APP

Download Installation

Please visit www.gdu-tech.com or scan the QR code below to install the App. Use this product with the App.



★ GDU Flight App requires systems with iOS 8.0 or above or Android 5.0 or above.

Connecting to the App

Connect the mobile device to the remote with an USB cable. Turn on the remote and aircraft then run the app.



Connect the Remote



Connect the Mobile Device



Power on Remote



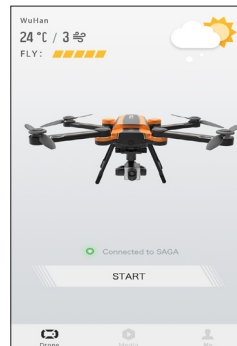
Power on Aircraft



Launch App

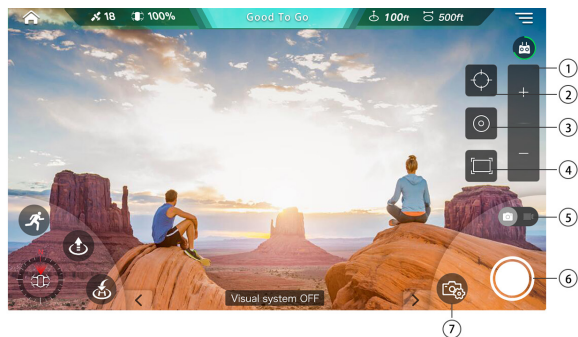
Start Up Interface

Run the app and enter the main menu. When the connection is normal, the interface will show the GTIR800 infrared camera start up screen.



Camera Interface

Press "start shooting" to enter the camera interface.



① Manual focus adjustment

+ **-** Press +/- to adjust the focus distance.

② One click focus

Press to use the one click focus.

③ Light cursor temperature test (full screen)

Press the icon then the target on the screen to show the temperature of the target.

④ Area temperature test (user defined area)

Press the icon then select the area on the screen to measure the temperature of the area.

⑤ Switch picture taking/video recording

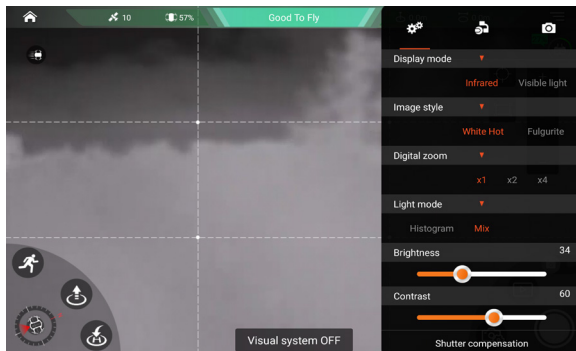
Click to switch between current picture taking/video recording mode.

⑥ Key of picture taking/video recording

Display current functions: picture taking/video recording.

⑦ Camera settings

Click to unfold camera function parameter settings.



Display mode: infrared, visible light in infrared, visible light, infrared in visible light.

Image style: white-hot, fulgurite, iron red, hot iron, medical, arctic, rainbow 1, rainbow 2, tint, black-hot.

Digital zoom: X1, X2, X4.

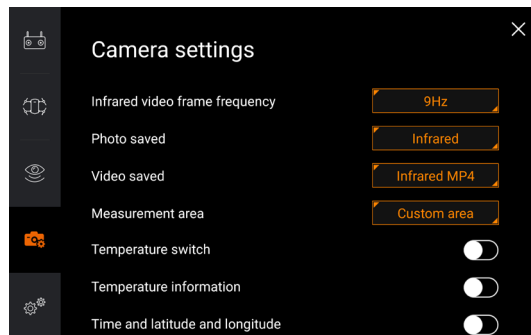
Light mode: linear, histogram, mix.

Brightness, contrast, shutter compensation, scene compensation, single shot, delay, shot, keep taking pictures, etc.


★ Manual focus adjustment, One click focus, Light cursor temperature test (full screen), Area temperature test (user defined area), Is not applicable to visible light display mode.

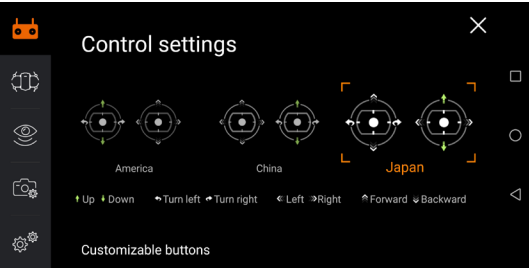
Camera Settings

Press the settings icon in the top right corner to enter camera settings. You can set the infrared video frame frequency, photo saved, video saved, measurement area, temperature switch, temperature information, time, and latitude and longitude.



Control Settings

Press the settings icon  in the top right corner. You can choose between America, China, and Japan in the settings interface. Users can customize the C1 and C2 buttons according to their habits and preferences.



- ★ The App interface language is consistent with the mobile device system language. If you need to change the interface language, please change the system's language first.
- ★ The App interface and functions will be continuously updated. Specific details are dependent on the latest version.
- ★ For more information, please read the "GDU SAGA User Manual" .

Maintenance

- Check if the structural limiter of each axis is working. If there are any abnormalities, please contact after-sales services.
- If the gimbal is broken or the image transfer function is not working normally, please check the gimbal and aircraft connection to see if there are any loose connections.
- Check if there are distortions, cracks, blockages, or dirt on the contact surfaces between the gimbal and aircraft.
- Check if the wiring is complete. If there are breaks or wear and tear, please contact after-sales services.

- Check the condition of the camera lens. If it is dirty, please use the specialized cleaning kit. Do not use any solvents or corrosive solutions.
- When using the gimbal, if there is severe shaking on the screen, please contact after-sales services.
- When not using the gimbal, please attach the lens cover to protect the camera.

Safety Instructions

- People under the age of 18 are not allowed to use this product.
- Do not place the product within the reach range of children.
- When using this product together with GDU aircrafts, please strictly follow the flight and use safety instructions of GDU aircraft.
- Unauthorized disassembly or modification of the product is prohibited.
- If you have questions which remain unanswered by these operating instructions, contact our technical support service or other technical personnel.

Technical Data

| GTIR800 Infrared Camera Gimbal Technical Data | | |
|---|--|--------------|
| Model number | GTIR800 | |
| Total weight | < 440g | |
| External port | 40 pin port (including HDMI and series port) | |
| Dimensions | 110mm×100mm×135mm | |
| Gimbal | | |
| 3 axis stabilization system | Yaw, roll, pitch | |
| Frame corner angle | Yaw axis | -200°~ +200° |
| | Roll axis | -45°~ +45° |
| | Pitch axis | -135°~ +45° |
| Controllable turn angle | Yaw axis | -180°~ +180° |
| | Pitch axis | -90°~ +30° |

| | | |
|-----------------------------------|--|---|
| Maximum turn speed | Greater than 30° /s | |
| Stabilization performance | Stabilization accuracy | ≤ 0.02° |
| Flight path movement | The yaw angle follows the angle of the aircraft, pitch axis and roll axis stabilization. | |
| Camera | | |
| Resolution | Infrared | 800×600 |
| | Visible light | 1280×720 |
| Focal distance | Infrared | 20mm F1.2 |
| | Visible light | 3mm F2.2 |
| Image mode | infrared, infrared picture in picture, visible light, visible light picture in picture. | |
| Zoom mode | Infrared | One click zoom, fine focusing adjustment+/- |
| | Visible light | One click focus |
| Photo storage format | infrared: JPG, visible light: JPG | |
| Video storage format | infrared: mp4, visible light: mp4 | |
| Photo mode | Single photo, consecutive photos, continuous photo, delayed photo | |
| Temperature measurement parameter | Range | -20℃~ 150℃ |
| | Accuracy | ±2℃ or ±2% |
| Memory card type | Micro SD, up to 128GB | |
| Operating temperature | -20℃ ~55℃ | |

* Information is subject to change without notice.