



FLIP Series

Thermal Imaging Camera

Operating Manual

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SPECIFICATION

Model	PH35 +
Microbolometer	
Resolution, pixels	640 x 512
Pixel size, μm	17
NETD, mk	≤ 40
Frame refresh rate, Hz	50
Optical Specifications	
Objective Lens, mm	35/1.0
Field of view, degree	17.8 x 9.8
Digital zoom, x	1 / 2 / 3 / 4
Detection range, m (Target size: 1.7mx0.5m,P(n)=99%)	1283
Display	
Resolution, pixels	1280 x 720 AMOLED
Size, inch	5
Power Supply	
Battery Type/Capacity	Built-in Li-ion battery/9600mAh
External Power Supply	5V (Type C USB)
Operational Specifications	
Max. battery life($t=25^{\circ}\text{C}$)*, h	9
Memory Capacity, GB	64
Operating Temperature, $^{\circ}\text{C}$	-10~+50
Dimension, mm	178 x 108 x 72
Weight, g	≤ 820

* Actual operation time depends on the intensity of Wi-Fi use and the built-in video recorder.

PACKAGE CONTENTS

- Flip Series Thermal Imager Camera
- Suitcase
- Portable Bag
- USB cable
- Power adapter
- Wrist strap
- Lens cleaning cloth
- Operating manual

** Improvements may be made to the design and software of this product to enhance its useful features. Technical parameters of the device may be improved without prior notice of the customer.*

DESCRIPTION

Different from night vision devices based on image intensifiers, the FLIP Thermal Imaging Camera adopts the thermal imaging principle and does not need external light sources.

The camera is not affected by light, and you can use it to observe objects hidden behind such obstacles as branches, tall grass, and shrubs, regardless of the night or the day with harsh weather (such as rain, snow, fog, and haze).

The FLIP series provides powerful functions and clear images, widely applicable to night hunting and

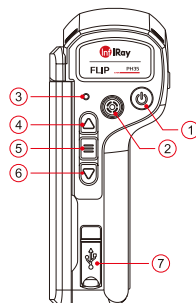
observation, geographical positioning, searching, and rescuing operations.

DISTINGUISHING FEATURES

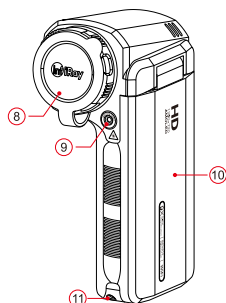
- 5" ultra-large HD OLED
- Real-time video playback
- One-key activation of laser
- 2600m detection range
- Digital zoom: 1×/2×/4×/8×
- Large-capacity battery pack, supporting 9h operating time
- Built-in light
- Ultraclear mode for harsh weather conditions
- 50Hz high frame rate
- Built-in Wi-Fi module, supporting InfiRay Outdoor APP
- Built-in 64G memory space, supporting photographing and video recording
- Multiple image modes, providing ultra-high image quality
- Picture-in-picture (PIP) function
- Multiple reticle types and colors
- Wrist strap, preventing accidental falling
- Convenient operation interface

UNITS AND CONTROLS



































1. Power button
2. Laser button
3. Power indicator
4. Up button
5. Menu button
6. Down button
7. Type C interface
8. Objective Lens
9. Laser indicator *
10. Flip display
11. Light








* The laser and cursor function may be disabled due to the legal restrictions in your countries and regions.



MENU/STATUS BAR ICONS

	Image mode	 Urban mode
		 Jungle mode
		 Highlight mode
	Palette mode	 White Hot
		 Black Hot
		 Red Hot
		 Color
	Ultraclear is on	 Ultraclear is off
	Wi-Fi is on	 Wi-Fi is off
	Calibration mode	 A Auto shutter calibration
		 M Manual shutter calibration
		 B Background calibration
	Custom	 Image brightness
		 Image contrast
		 Image sharpness
	Laser settings	 Cursor style
		 Cursor color
	Settings	 Status auto hiding
		 Factory reset
		 System information
1x / 2x / 4x / 8x Digital zoom		
	Display brightness	
	PIP function	
	Digital compass	
	Playback	
	Laser calibration	
	Compass calibration	

BUTTON OPERATIONS

Button	Device Status/Current Operation Mode	Short press	Long press
Power 	Powered-off	— —	Power on the device
	Powered-on	Calibrate the image	Power off the device
	Menu interface	Return to the home screen	— —
UP 	Home screen	Digital zoom	Turn on/off the stadiametric rangefinder function
	Menu interface	Scroll up the menu	— —
	Playback screen	Fast backward for 5s	Continuous fast backward
	Laser calibration screen	Move to the right/up direction for 1 pixel	Continuously move to the right/up direction
Menu 	Home screen	Open the shortcut menu	Open the main menu
	Shortcut menu interface	Adjust specific parameters of a function	Save and go back to the upper menu
	Main menu interface	Open the submenu / Confirm the parameter	
	Playback interface	Pause/Play	
	Laser calibration interface	Confirm the option/Save the moved position	
Down 	Home screen	Take a photo	Turn on the video recording
	Menu interface	Scroll down the menu	— —
	Playback	Fast forward for 5s	Continuous fast forward
	Laser calibration	Move to the left/down direction for 1 pixel	Continuously move to the left/down direction
Laser 	Home screen	Turn on/off the laser indicator	Turn on/off the light
	Playback interface	Open the deletion screen	— —

BATTERY AND SAFETY

The FLIP series adopts the rechargeable built-in battery, achieving a 9-hour operating time.

- Please use the standard battery charger. Otherwise, unrecoverable damages will be caused to the battery, and fire will be possibly produced.
- If the battery is not in use for a long time, the battery should be partially charged, not fully charged or discharged;
- Do not charge the battery immediately after you bring it from the cold environment to the warm environment. Wait 30 to 40 minutes for it to warm up;
- Do not charge the battery unsupervised;
- Do not use the charger if it is modified or damaged;
- Charge the battery in the environment of 0°C to +45°C. Otherwise, the service life of the battery will be reduced;
- Charging time should not exceed 24 hours;
- Do not expose the battery to high temperature or open flame;
- Do not immerse the battery in water;
- Do not connect a third-party device on which the current exceeds the rated current;
- The battery is equipped with a short circuit protection function, but any situation that may lead to short circuits should be avoided;
- When the device is used under sub-zero temperature, the battery capacity drops. This is normal and does not

indicate a defect;

- Do not use the battery in an environment with a temperature greater than 50°C, which may reduce the service life of the battery.

EXTERNAL POWER SUPPLY

The FLIP series supports external power supplies, such as power banks, and supports 5V/2A, 9V/2A charging.

- When the charging indicator turns from red to green, indicating that the battery is fully charged.
- Connect the external power supply to the **Type-C interface (7)** of the FLIP series;
- The device will switch to the external power supply and charge the internal battery at the same time;
- The battery icon will be changed to the charging icon on the display;
- When the external power supply is disconnected, the FLIP series will automatically switch to the battery and will not shut down.

OPERATION

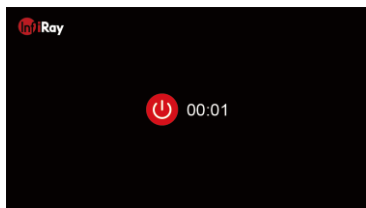
ATTENTION! The lens of the device must not be pointed at any sources of intense energy, such as laser-emitting devices or the sun. This may damage the electronic components in the device. Damage caused by failure to comply with the operating guidelines is not covered under warranty.

Power on and image adjustment

- Flip the display to an angle comfortable for viewing.
- Remove the lens cap, and press and hold the **Power button (1)** to power on the device. Then, the home screen is displayed after several seconds;
- Rotate the focusing ring of the **objective lens (8)** to focus on the object to be observed.
- To set the display brightness, image sharpness, image mode, digital zoom, and so on, please refer to the shortcut menu functions in this manual.

Shut Down

- After using the device, press and hold the **Power button (1)** for 3 seconds. The shutdown countdown screen will appear.
- When the countdown from 3 to 0 is completed as indicated by the countdown icon, the device is powered off. Then release the button. The display is off, the indicator is off, and the device is shut down.



Standby



- Flip close the display. The device automatically enters standby mode. When you flip open the display again, the device wakes up.
- In standby mode, the indicator is still steady green.





STATE BAR



The status bar is on the top of the display to indicate the current operation status of the camera. The display content from the left to the right are as follows:

1. Current image mode (🌿 : jungle mode; 🏙️ : urban mode; 🦋 : highlight mode)
2. Current image palette (☀️ : white hot; 🌑 : black hot; 🔥 : red hot; 🎨 : palette)
3. Ultraclear mode (👁️ : Ultraclear on; 🚫👁️ : Ultraclear off)
4. Current digital magnification (such as x1)
5. Current calibration mode (a countdown timer ⌚ 00:05 will appear instead of the calibration mode with 5 seconds remaining until automatic calibration). The timer will appear only after the micro bolometer temperature has stabilized (after 10 minutes of continuous operation of the camera. Immediately after turning on the camera the shutter calibration activates automatically without displaying the timer.

6. Compass (displayed when it is on)
7. Laser status (displayed when it is on)
8. Light (displayed when it is on)
9. Wi-Fi status ( : Wi-Fi is on;  : Wi-Fi is off)
10. Clock (time synchronization in the InfiRay Outdoor App is required)
11. Battery pack power status (The color of the battery icon represents the current battery level. When the battery icon is shown in red, it indicates that the battery is low. Please charge it in time.)

Icon	Color	Battery level
	Blue	30%-100%
	Yellow	20%-30%
	Red	Less than 10%
	--	Charging

CALIBRATING THE SENSOR

When the image is degraded or uneven, it can be improved by calibration. Calibration enables the detector temperature background to be equalized and defects in the image to be eliminated.

There are three calibration modes: automatic shutter calibration (A), manual shutter calibration (M), and background calibration (B). Select the required mode referring to the section **Main Menu - Calibration Mode**.

- **Automatic shutter calibration (A):** After you select this mode, the device conducts automatic shutter

calibration through software algorithms without covering the lens cap (the sensor will automatically close the internal shutter). In this mode, you can also press the **Power button (1)** to conduct shutter calibration (that is, manual shutter calibration).

- **Manual shutter calibration (M):** After selecting this mode, press the **Power button (1)** on the home screen for manual shutter calibration without covering the lens cap (the sensor automatically closes the internal shutter).
- **Background calibration (B):** After selecting this mode, press the **Power button (1)** on the home screen for background calibration. During calibration, cover the lens cap. You can remove the lens cap after calibration.

PHOTOGRAPHING AND VIDEO RECORDING

The FLiP series is equipped with a built-in 64G memory space and supports photo-taking and recording.

Note

- The image and video files will be named by time. Therefore, it is recommended that you complete the time and date synchronization in the configurations of the app before using the photo-taking and recording functions. For detailed operations, download the app manual from the company's official website.

Photographing

- Take a photograph with a short press of the **Up button (3)** in the home screen. The image freezes for 0.5s with a photo icon (📷) displayed on the upper-right corner of the display.
- The picture file is saved to the build-in memory card.

Video Recording

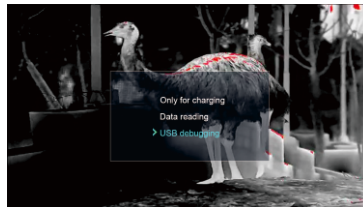
- In the home screen, press and hold the **Up button (4)** to start video recording.
- The recording icon and recording time prompt are displayed on the upper left corner of the display, and the time is in the format of HH : MM : SS (hour, Minute, Second).
- During the recording, the red dot on the left side of the time will continuously flash;
- During the recording, press and hold the **Up button (4)** to stop and save the video;
- The videos that you record will be saved in the built-in memory space, and you can use the playback function for preview. For details, see **Main Menu-Playback Function**.



Memory Access

When the device is powered on and connected to a computer, it will be recognized by the computer as a flash memory card. Then, you can access the memory of the device and copy images and videos.

- Connect the device to a computer through the data cable.
- Power on the device for operation, and the USB function box pops up on the screen.
 - **Only for charging:** If you select this option, you can power the device through the computer and charge the battery pack at the same time;
 - **Data reading:** Select this option, you can view the recorded videos and photos on the computer. At this time, the playback function is unavailable;
 - **USB debugging:** Select this, you can connect to the host computer, support through the computer to the device program update



- Double-click on My Computer, find the displayed USB device, and double-click on it to access the memory.
- After you access the memory, the .MISC, LOCK-CIF,

PHOTO-CIF, and VIDEO-CIF folders are displayed;

- The captured videos and photos are respectively stored in the VIDEO-CIF and PHOTO-CIF folders and are sorted by time.
- You can select required files or folders for copying or deleting operations.

Note

- You can still operate on the menu during video recording;
 - To facilitate playback, the maximum duration of a video recording file is 5 minutes. When the duration is more than 5 minutes, the video will be automatically recorded to a new file;
 - Photo-taking and recording adopt the pre-distribution storage mode. That is, even if there is no photo or video file, the memory is full and this is normal.
 - Do not delete files other than VIDEO-CIF folder and PHOTO-CIF folder. If you accidentally delete any of these files, you need to format the memory before using the device;
 - The interface icon information is not displayed on the captured video or photo.
-

LASER INDICATOR FUNCTION

- On the home screen, short press the **Laser button (2)** to turn on the laser pointer.
- When the laser is turned on, a laser cursor is displayed on the display to indicate the laser position.
- The type and color of the laser cursor can be set in the

main menu, seeing **Main Menu - Reticle Setting**.

- Press the **Laser button (2)** again to turn off the laser.



LIGHT FUNCTION

- On the home screen, press and hold the **Laser button (2)** to turn on the light.
- Press and hold the **Laser button (2)** again to turn off the light.

DIGITAL ZOOM FUNCTION

The FLIP series supports 1× to 8× magnification of images to increase visual magnification.

- On the home screen, press the **Up button (4)** in a circular manner to circularly zoom the image.
- The corresponding digital magnification is displayed on the status bar on the top.

STADIAMETRIC RANGEFINDER

FUNCTION

Flip series is equipped with a stadiametric rangefinder, which allows you to estimate the approximate distance to an object, if its size is known.

- On the home screen, press and hold the **Up button (4)** to turn the stadiametric rangefinder function on or off.
- The display will show two horizontal lines for measurement, the icons and numbers of the measured distance for three objects will be shown on the right of the display.



- There are three predefined values for objects:
 - Deer: 1.7m high
 - Boar: 0.9m high
 - Hare: 0.2m high
- Locate the object in the middle of the measurement lines, and move the lines through pressing the **Up (4)** or **Down (6)** button so that the object is located directly between the measurement lines. Press the **Up (4)** button to widen the space of the lines and the

Down (6) button to narrow the space.

- When adjusting the width of the measurement lines, the value of the ranging on the right will change accordingly.
- Press and hold the **Menu button (5)** to exit the stadiametric rangefinder function.

SHORTCUT MENU

On the shortcut menu, you can quickly adjust basic configurations of commonly used functions, including the image mode, palette mode, display brightness, and PIP.

- On the home screen, press the Menu button (5) to open the shortcut menu;
- Press the Up button (4) and Down button (6) to switch between the following functions;
 - **Image mode:** After selecting this option, press the **Menu button (5)** to circularly switch among image modes in a sequence of jungle mode, urban mode, and bird watching mode. **Jungle mode:** for mountain and jungle scenarios, to highlight the target; **Urban mode:** for scenarios with various targets, to reveal more details; **Highlight mode:** for small heat sources, to discover targets.
 - **Palette mode:** After selecting this option, press the **Menu button (5)** to circularly switch among image modes in a sequence of white-hot, black-hot, red-hot, and palette.

- **Display brightness:** After selecting this option, press the Menu button (5) to adjust the screen brightness in 1-5 levels.
- **PIP:** After selecting this option, press the Menu button (5) to turn on or off the PIP function.
- Press and hold the **Menu button (5)** or press the **Power button (1)** to exit to the home screen.
- In the shortcut menu, if there is no operation within 10s, the device will automatically save the changes and return to the home screen.



MAIN MENU

- On the home screen, press and hold the **Menu button (5)** to open the main menu.
- Press the **Up (4)** or **Down (6)** button to switch among menu options.
- The function options of the main menu are cyclical:
When the cursor > reaches the last menu option on the first page, continue to press the **Down button (6)** so that it will start from the first menu option on the

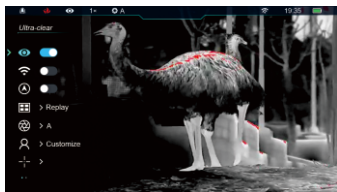
second page; When the cursor > stays at the first option on the first page, press the **Up button (4)** to jump directly to the last menu option on the second page.

- Press the **Menu button (5)** to modify the parameter settings of the current menu option or to open the submenu.
- The position of the cursor indicates the selected option, the icon of which will change from gray to white.
- In the second-level and third-level menus, press the **Menu button (5)** to confirm the selection, save the modifications, and go back to the upper menu.
- In all menu interfaces, press and hold the **Menu button (5)** to go back to the upper menu or the home screen; press the **Power button (1)** to directly go back to the home screen.
- In all menu interfaces, the device will automatically return to the home screen when there is no operation within 10s.

Main Menu Contents and Description

- 🔍 **Ultraclear Mode** - Selection of the Ultraclear mode
 - Press and hold the **Menu button (5)** to enter the main menu interface.
 - Select the 'Ultraclear' option with the **Up (4)** / **Down (6)** button.
 - Short press **Menu button (5)** to turn the Ultraclear on/off during which you will hear a click of shutter calibration.

- The icon in the status bar changes accordingly after this mode is turned on or off.
- When the Ultraclear mode is on, the image contrast is enhanced, which is suitable for rainy, foggy and other harsh weather conditions.



Wi-Fi - Selection of the Wi-Fi function

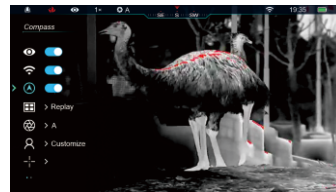
- Press and hold the **Menu button (5)** to enter the main menu interface.
- Select the 'Wi-Fi' option with the **Up (4) / Down (6)** button.
- Turn the Wi-Fi on/off with a short press of the **Menu button (5)**.
- The icon in the status bar changes accordingly after this mode is turned on or off.



- After the Wi-Fi is enabled, search for the Wi-Fi named FH35_XXXXXX on the mobile device, among which XXXXXX is a serial number composed of six digits and letters.
- Select the Wi-Fi, enter the password and connect. The initial password is 12345678.
- After Wi-Fi access, you can control the device via the mobile app.

Digital Compass - Selection of the Digital Compass

- Press and hold the **Menu button (5)** to enter the main menu interface.
- Select the 'Digital Compass' option with the **Up (4) / Down (6)** button.
- Turn the compass on/off with a short press of the **Menu button (5)**.
- When the compass is on, the compass bearing will be displayed in the middle of the status bar on the top.




Playback - Playback photo or video

- Press and hold the **Menu button (5)** to enter the main menu interface.

- Select the 'Playback' option with the **Up (4) / Down (6)** button.
- Press the **Menu button (5)** to access the browsing interface of the playback function.
- Press the with the **Up (4) / Down (6)** button to browse files.
- To playback a video file, briefly press the **Menu button (5)** to play or pause it. When the video starts playing, you can press and hold the **Up (4) / Down (6)** button to fast forward or fast backward the video. Press and hold the **Menu button (5)** to exit playing and back to the browsing interface.
- When browsing a file (no video is playing), you can press and hold the **Up (4) / Down (6)** button to turn pages up or down or press the **Laser button (2)** to delete the selected file.
- Files are sorted according to their shooting time in reverse order. The file at the top is the latest shot.
- Press and hold the **Menu button (5)** to exit or press the **Power button (1)** to return to the home screen.



 **Calibration Mode** -The FLIP series provides three calibration modes: automatic shutter calibration (A), manual shutter calibration (M), and background calibration (B).

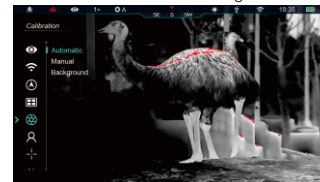
- Press and hold the **Menu button (5)** to enter the menu interface.
- Select the 'Calibration Mode' option with the **Up (4) / Down (6)** button.
- Enter the submenu of the calibration function with a short press of the **Menu button (5)**.
- Short press the **Up (4) / Down (6)** button to select a mode from the three choices.


-**Automatic (A)**: Calibration requirements are determined by the software algorithm in the automatic mode. The calibration process starts automatically.

-**Manual (M)**: The user independently determines the need for calibration based on the quality of the observed image.

-**Background (B)**: Close the lens cover before starting the calibration.



- Press the **Menu button(5)** to confirm the selection. The icon in the status bar changes accordingly.



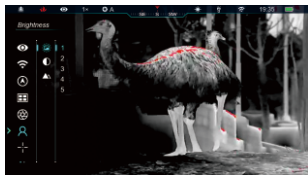
 **Custom** - Setting image brightness, contrast, and sharpness.

- Press and hold the **Menu button (5)** to enter the menu.
- Select the 'Custom' option with the **Up (4) / Down (6)** button.
- Enter the submenu with a short press of the **Menu button (5)**.




  **Image Brightness** - Setting image brightness

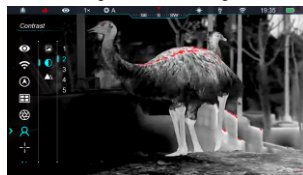
- Press the **Up (4) / Down (6)** button to select the Image Brightness option.
- Press the **Menu button (5)** to confirm the selection and open the secondary menu of the Image Brightness function.
- Press the **Up (4) / Down (6)** button to adjust



the level of the image brightness. There are five levels, the higher level, the brighter.

 **Image Contrast** - Setting image contrast

- Press the **Up (4) / Down (6)** button to select the Image Contrast option.
- Press the **Menu button (5)** to confirm the selection and open the secondary menu of the Image Contrast function.
- Press the **Up (4) / Down (6)** button to adjust the level of the image contrast. There are five levels, the higher level, the brighter.



 **Image Sharpness** - Setting image sharpness

- Press the **Up (4) / Down (6)** button to select the Image Contrast option.
- Press the **Menu button (5)** to confirm the selection and open the secondary menu of the Image Contrast function.
- Press the **Up (4) / Down (6)** button to adjust the level of the image contrast. There are five levels, the higher level, the brighter.



⌵ Laser Settings - Setting laser cursor style and color

- Press and hold the **Menu button (5)** to open the main menu.
- Press the **Up (4)** or **Down (6)** button to select the Laser Setting option.
- Press the **Menu button (5)** to open the secondary menu of the Laser Setting function. You can set the style and color of the laser cursor.



⌵ | + Cursor Style - Setting style of the laser cursor

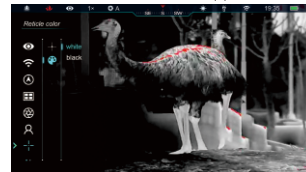
- Press the **Up (4) / Down (6)** button to select the Cursor Style option.
- Press the **Menu button (5)** to open the secondary menu of the Cursor Style function.
- Press the **Up (4) / Down (6)** button to switch

over among 5 different styles. The laser cursor will change accordingly.



⦿ Cursor Color - Setting color of the laser cursor

- Press the **Up (4) / Down (6)** button to select the Cursor Color option.
- Press the **Menu button (5)** to open the submenu of the Cursor Color function.
- Press the **Up (4) / Down (6)** button to select the color of the current laser cursor between white and black. The laser cursor will change accordingly.
- Press the **Menu button (5)** to confirm the selection and return to the upper menu.



⊕ Laser Cursor Calibration

If the target location marked by the laser pointer

differs from the location indicated by the cursor center, you can use this function to calibrate the cursor position of the laser pointer (provided the laser pointer function is enabled).

- Press and hold the **Menu button (5)** to enter the main menu interface.
- Press the **Up (4) / Down (6)** button to select the Laser Setting option.
- Press the **Menu button (5)** to open the Laser Cursor Calibration interface. The laser indicator light will automatically turn on at the same time.
- The cross cursor appears in the middle of the screen and the prompts shown in the following figure are displayed in the upper left corner:
 - **X** indicates the X-axis direction, that is horizontal.
 - **Y** indicates the Y-axis direction, that is vertical.
 - **Center** allows the cursor to return to the center of the screen.
 - **Default** is to restore the cursor to the factory setting.
- Press the **Up (4) / Down (6)** button to switch over between options. Press the **Menu button (5)** to confirm the selection.
- When the X-axis or Y-axis direction is selected, the icon **>** on the left side of the selected item will change to **I**. Press the **Up (4) / Down (6)** button to move the cursor. You can press the **Up button (4)** to move the cursor right or up, and the **Down button (6)** to move the cursor left and down. You

can move the cursor pixel by pixel by pressing the button or continuously by pressing and holding the button.

- After moving the cursor, press the **Menu button (5)** to save the setting and exit. The icon on the left side of the select item will change from **I** back to **>**.
- When the **Center/Factory Default** is selected, press the **Menu button (5)**. The cursor will return to the center or factory default position.
- After moving the cursor to the position marked by the laser pointer, press and hold the **Menu button (5)** to save the position and return to the previous screen.



- Ⓐ **Compass Calibration** - Calibrate the digital compass
- Press and hold the **Menu button (5)** to enter the menu.
 - Select the 'Compass Calibration' option with the **Up (4) / Down (6)** button.
 - Short press the **Menu button (5)** enter the compass calibration interface. The calibration icon will be displayed on the screen.

- Take the device to rotate in a 'reverse 8' track indicated by the icon.
- After 15s, the calibration is finished and exit to the home screen by default.



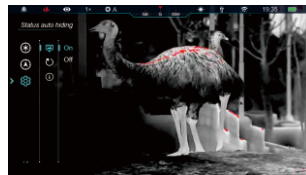
Settings - Select the general settings

- Press and hold down the **Menu button (5)** to enter the Main Menu.
- Select the 'Settings' option with the **Up (4) / Down (6)** button.
- Briefly press the **Menu button (5)** to enter the submenu.
- This menu item **allows** you to set the GUI auto hiding, restore factory setting and query device information.



Status Auto Hiding - Selection of automatic status hiding

- In the Settings submenu, select the 'Status Auto Hiding' option with the **Up (4) / Down (6)** button.
- Press the **Menu button (5)** briefly to enter the Status Auto Hiding submenu.
- Briefly press the **Up (4) / Down (6)** button to select on or off.
- Confirm your selection with a short press of the **Menu button (5)**.
- Submenu exit will take place automatically.



Factory Reset - Reset to the factory settings

- In the Settings submenu, select the Factory Reset menu option with the **Up (4) / Down (6)** button.
- Enter the Factory Reset submenu with a short press of the **Menu button (5)**.
- Briefly press the **Up (4) / Down (6)** button to select **Yes** or **No**.
- Confirm your selection with a short press of the **Menu button (7)**.

- The device will reboot if **Yes** is selected.
- If **No** is selected, the action will be cancelled and will return to the submenu.

The following settings will be returned to the defaults:

- **Image mode:** Jungle
- **Palette:** White hot
- **E-zoom:** 1 x
- **Ultraclear:** Off;
- **Calibration:** Automatic
- **Wi-Fi / Video out / Compass:** Off
- **Laser / Light / Status Auto Hiding:** Off



i Info - Show device information

- In the Settings submenu, select the Info menu option with the **Up (4) / Down (6)** button.
- The relevant information of the device will be shown with a short press of the **Menu button (5)**.
- Long press the **Menu button (5)** to return to the upper menu.



STATUS AUTO HIDING

This function is used to automatic hiding of the GUI information on the interface with reticle displayed only, so to make the image unobtrusive.

- Press and hold down the **Menu button (5)** to enter the Main Menu.
- Select the **Settings** option with the **Up (4) / Down (6)** button.
- Briefly press the **Menu button (5)** button to enter the submenu.
- Select the **Status Auto Hiding** menu option with the **Up (4) / Down (6)** button.
- Enter the **Status Auto Hiding** submenu with a short press of the **Menu button (5)**.
- Briefly press the **Up (4) / Down (6)** button to select On or Off.
- Confirm your selection with a short press of the **Menu button (5)**.
- When the selecting is On, the GUI icons in the interface including the status bar will be automatic hidden after

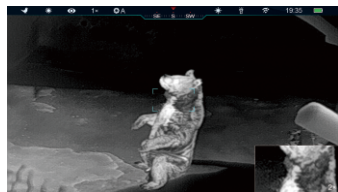
8 seconds without any operation. Only the image and the reticle will be displayed.

- The GUI information will be displayed again with the press of any button.
- Only after the GUI is displayed, the button and menu can be manipulated.

PICTURE IN PICTURE FUNCTION (PIP)

The PIP (Picture in Picture) function allows you to see both a magnified image in a particular window and the main image. This window shows part of the image which is enlarged to 2× in a certain area centered on the reticle of the main image.

- In the home screen, briefly press the **Menu button (5)** to open the shortcut menu.
- Select the PIP function with the **Up (4) / Down (6)** button.
- Briefly press the **Up (4)/Down (6)** button to select On or Off.
- Briefly press the **Menu button (5)** to confirm your selection.
- If the PIP is on, when the main image is enlarged with a short press of the **Up button (4)**, the PIP image will synchronously be enlarged two times.
- For example, when the magnification of the main image is 1×, 2×, 4×, 8×, the corresponding magnification of the PIP image is 2×, 4×, 8×, 16×.




Wi-Fi FUNCTION

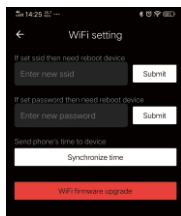
The Flip series has a built-in Wi-Fi module. The device can connect to an external apparatus (computer or mobile phone) via Wi-Fi.

- Turn the Wi-Fi function on in the main menu, referring to 'Main Menu - Wi-Fi'.
- On your mobile device, search and select the Wi-Fi signal named Flip_XXXX-XXXXXX, among which XXXXX-XXXXXX is the serial number of the device, composed of digits and letters.
- Enter the password and establish a connection. The initial password is 12345678.
- And then, the device can be controlled via the APP named **InfiRay Outdoor** pre-installed on your mobile device (see **Update and APP** section).

Set Wi-Fi name and password

The Wi-Fi name and password of your device can be reset in the **InfiRay Outdoor** application.

- After connected with the mobile device, click the 'Setting' icon  in the APP to enter the setting interface.
- In the text box, enter and submit the new Wi-Fi name (SSID) and password.
- It needs to restart the device to take the new name and password effect.



Note

- When factory Settings are restored, the Wi-Fi name and password are also restored to factory default Settings.

UPDATE AND APP TECHNOLOGY

In order to continuously improve the product performance and provide better user experience, the software program, as well as parameters and operating instruction of the device will be constantly updated. Users can go to the official website (www.infirayoutdoor.com) or InfiRay Outdoor to download and update.

The Flip series supports control with an app. You can transmit images in real time, operate the device, and update the firmware program by connecting a smartphone or laptop via Wi-Fi.

About InfiRay Outdoor

- You can download and install the **InfiRay Outdoor** app on the official website (www.infirayoutdoor.com) or App store. Alternatively, you can download the app by scanning the following QR code.



- When installation completed, open **InfiRay Outdoor** application.
- If your device is already connected with a mobile device, please switch on the mobile data in mobile device. After connection, the update detection is performed automatically with a prompt in the application. Click '**Now**' to download the updates or click '**Later**' to update later.
- **InfiRay Outdoor** will automatically store the last connected device. So, if your device has not connected with your mobile device, but linked to **InfiRay Outdoor** before, the update prompt will appear if there is an update when turning on **InfiRay Outdoor**. You can download the update first via mobile Wi-Fi and then connect your device with mobile device to finish the update.
- After finishing the update, the device will root.

TECHNICAL INSPECTION

It is recommended to carry out a technical inspection each time before using the device. Check the following:

- The external appearance of the device (there should be no cracks in the casing).
- The condition of the lens and eyepiece (there should be no cracks, greasy spots, dirt or other deposits)
- The state of the rechargeable battery (it should be charged).
- The controls / buttons should be in working order.

MAINTENANCE

Maintenance should be carried out at least twice a year and consist of the following actions.

- Wipe the external surfaces of metal and plastic parts of dust and dirt with a cotton cloth. Silicone grease maybe used for this.
- Clean the electrical contacts of the battery and battery slot on the device using a non-greasy organic solvent.
- Check the glass surfaces of the eyepiece and the lens. If necessary, remove dust and sand from the lenses (preferably using a non-contact method). Cleaning of the external surfaces of the optics should be done with substances designed specially for this purpose.

TROUBLESHOOTING

This table lists all the problems that may arise when operating the device. Carry out the recommended checks and troubleshooting steps in the order shown in the table. If there are defects that are not listed in the table or it is impossible to repair the defect yourself, return the device for repair service.

Malfunction	Possible reason	Correction
The thermal imager cannot start.	Battery pack is out of charge.	Charge the battery.
The device cannot be powered by external power supply.	The USB cable is damaged.	Replace USB cable
	The external power supply is insufficient.	Check external power supply (if necessary).
Image is unclear, with vertical lines and uneven background.	Calibration is required	Calibration the image as instructed by Section 9 'Calibration' of the Manual.
The GUI is clear, but the image is fuzzy.	The lens is not focused.	Rotate the lens focus knob to adjust the focus.
	There is dust or condensate on the interior or exterior optical surfaces of the lens.	Wipe off the outside optical surfaces with a soft cotton cloth. Let the camera dry by leaving it in a warm environment for 4h.

Malfunction	Possible reason	Correction
The image is too dark.	The screen is in low brightness level .	Adjust the screen brightness.
Poor image quality or reduced detection distance	These problems may occur when you use the device in the harsh weathers (snow, rain, fog, etc.).	
	The Wi-Fi password is incorrect.	Enter the correct Wi-Fi password.
The device cannot connect to a smartphone or tablet.	There are too many Wi-Fi networks that are accessible to the device.	To ensure stable Wi-Fi operation, relocate the device to an area with fewer Wi-Fi networks, or into an area with none.
The observed target disappears	You are observing the target through the glass	Observe the target directly without the presence of glass
Wi-Fi signal lost or is interrupted	The device is outside the Wi-Fi coverage area. There are obstacles between the device and the receiver (e.g. concrete walls.)	Relocate the device into direct line of sight of the Wi-Fi signal.

Malfunction	Possible reason	Correction
	In positive temperature conditions, objects being observed (surroundings and background) heat up differently because of thermal conductivity, thereby generating a high-temperature contrast. Accordingly, the image quality produced by the device will be higher.	
When used in low temperature conditions, the image quality is poorer than in positive temperature conditions.	In low-temperature conditions, objects being observed (background) do, as a rule, cool down to roughly the same temperature because of which temperature contrast is substantially reduced and the image quality (detail) is poorer. This is a feature of thermal imaging devices.	

