

- Double-click "my computer" on the desktop - double-click to open the device named "Infray"  - then click and open the device named "Internal Storage"  to access memory.
- There are different folders named by time in memory .
- Recorded videos and photographs are saved in these folders in the format: IMG_HHMMSS_XXX.jpg (for photos) and VID_HHMMSS.mp4 (for video). HHMMSS- hour/minute/second; XXX - three-digit common file counter for photos which is NOT reset.

LASER RANGEFINDER FUNCTION

FL35R/FH35R is built-in laser rangefinder module.

- Short press the **Up/Ranging (5)** button to switch on the laser rangefinder function in the home screen.
- A blue cursor  appears automatically on the screen, and the tooltip  at the bottom of the screen displays the current ranging mode and the distance of the target indicated by the cursor.
- There are two kinds of ranging modes: single ranging  and continuous ranging . Press and hold the **Up/Ranging (5)** button to switch between the two modes.



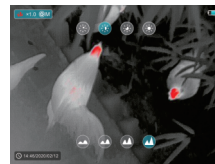
- In the single ranging mode, short press the **Up/Ranging (5)** button is required for ranging.

- In the continuous ranging mode, the distance of the target indicated by the cursor will be refreshed automatically every 1 second, without any keystroke operation.
- The measurement range and accuracy is $800\text{m} \pm 1\text{m}$, and it will be affected by fog and heavy rain and other weather.
- After the measurement is completed, short press the **Power (3)** button to exit the laser rangefinder function.

SHORTCUT MENU FUNCTION

The basic settings (use of the smooth digital zoom function, display brightness adjustment, image mode and sharpness adjustment) are changed via the Shortcut Menu.

- In the home screen, by pressing the **Menu (4)** button to enter shortcut menu 1-shortcut menu 2-exit the menu accordingly.
- After entering the menu, press the **Up (5)** button to set the parameters at the top of the screen and press the **Down (6)** button to set the parameters at the bottom of the screen.

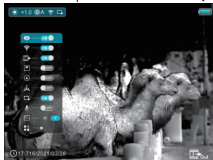


- **Smooth Digital Zoom**- by pressing the **Up (5)** button to change the digital zoom value from 1.0 to 4.0 in the shortcut menu 1.
- **Image Mode**- by pressing the **Down (6)** button to change the image mode in the shortcut menu 1. The icons from left to right are white hot, black hot, red hot, hot target highlight, ironbow and rainbow.

- ▶ **Display Brightness**- by pressing the **Up (5)** button to change the display brightness level from 1 to 4 in the shortcut menu 2.
- ▶ **Image Sharpness**- by pressing the **Down (6)** button to change the image sharpness level from 1 to 4 in the shortcut menu 2.
- An automatic exit from the menu occurs after 10 seconds of inactivity. Also, it will return to the home screen quickly with a short press the **Power (3)** button.

MAIN MENU FUNCTIONS

- Enter the menu with a long press of the **Menu (4)** button in the home screen.
- Press the **Up (5) / Down (6)** buttons to move through the menu functions, and the background of the option will become blue simultaneously.
- Press the **Menu (4)** button to set the parameters of the current option, or open the menu item.
- On the "**More**  "option, short press the **Menu (4)** button to enter the sub menu for more settings.
- The button operation of the sub menu is the same as that of the Main Menu.
- Press and hold down the **Menu (4)** button to exit the menu.
- An automatic exit from the menu occurs after 10 seconds of inactivity. Also, it will return to the home screen quickly with a short press the **Power (3)** button.



Composition and Description of the Main Menu

- 👁 **Ultraclear** - Selection of the Ultraclear mode
 - Press and hold the Menu button (4) to enter the menu.
 - Select the 'Ultraclear' option.
 - Short press Menu button (4) to turn the Ultra-clear on/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 (4) to enter the menu.
 - Select the 'Wi-Fi' option.
 - A short press of the Menu button (4) switches the Wi-Fi on/off.
 - The Wi-Fi icon is displayed in the upper-left status bar when it is on.
- 📺 **Video Out**-Selection of the video out function
 - Press and hold the Menu button (4) to enter the menu.
 - Select the 'Video out' option.
 - A short press of the Menu button (4) switches the video out on/off.
 - The Video out icon is displayed in the lower-right corner when it is on.
- 🖼 **PIP Mode**- Selection of the Picture in Picture Mode
 - Press and hold the Menu button (4) to enter the menu.
 - Select the 'PIP Mode' option.
 - Switch the mode on/off with a short press of the Menu button (4).
 - A 2x magnified image in a separate 'window' appears at the top of the display simultaneously with the main image.

- Ⓐ **Digital Compass** - Selection of the Digital Compass
- Press and hold the Menu button (4) to enter the menu.
 - Select the 'Digital Compass' option.
 - A short press of the Menu button (4) switches the compass on/off.
 - The compass bearing is displayed in the top center of the image.

- 📷 **Motion Sensor** - Selection of the Motion Sensor
- Press and hold the Menu button (4) to enter the menu.
 - Select the 'Motion Sensor' option.
 - Switch the Motion sensor function on/off with a short press of the Menu button(4) .
 - When enabled, relevant functions will appear on the right side of the image, that the horizontal scale plate represents the dip angle, while the vertical represents the pitch angle.



- 🔧 **Automatic Display-off** - Selection of the Auto Display-off
- Press and hold the Menu button (4) to enter the menu.
 - Select the 'Automatic Display-off' option.
 - A short press of the Menu button (4) switches on/off.
 - The icon is displayed in the upper-left status bar when it is on.

- 🎤 **Microphone-** Selection of the Mic function.
- Press and hold the Menu button (4) to enter the menu.
 - Select the 'Microphone function' option.
 - Press the Menu (4) button to switch the MIC on/off.
 - The icon is displayed on the status bar when it is on.

- 📏 **Length Unit** - Selection of the length unit
- There are two units for selection: meter (M) and yard (Y).
- Press and hold the Menu button (4) to enter the menu.
 - Select the 'Length Unit' option.
 - Briefly press the Menu button (4) to select M or Y.

- ⚙️ **More** - Get more settings
- Press and hold the Menu button (4) to enter the menu.
 - Select the 'More' option.
 - A short press of the Menu button (4) to enter the sub menu for more settings.

- ⚙️ **Calibration Mode** - Selection of calibration mode.
- There are two calibration modes: automatic(A) and manual(M).
- Press and hold the Menu button (4) to enter the menu.
 - Select the 'Calibration Mode' option.
 - A short press of the Menu button (4) to select A or M.

Automatic(A) Ⓐ

Calibration requirements in the automatic mode are determined by the software algorithm, with the calibration process being started automatically.

Manual(M) Ⓜ

The user independently sets the calibration requirements according to the image being observed.

- 🌈 **Image Hue** - Selection of image hue.
- There are two hues for selection: cool (C) and warm (W).
- Press and hold the Menu button (4) to enter the menu.
 - Select the 'Image Hue' option.
 - A short press of the Menu button (4) to select C or W.
 - The switch between the warm and cool hues is not appears at the top of the display simultaneously with the main image.

Cold hue mode (C)

Image will be more contrast, more hierarchy, and more obvious targets.

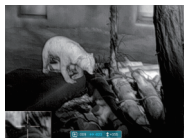
Warm hue mode(W)

Image will be softer, it can be reducing the visual fatigue of the observer, and long time observation is not dazzling.

+ Defective Pixels Calibration

When using the device, defective (broken) pixels may appear on the sensor: i.e., bright or dark points of constant brightness that are visible on the image. Finder II Series offers the possibility of removing any defective pixels on the sensor, as well as to cancel any deletion.

- Open the sub menu by pressing the Menu button (4).
- Select the 'Defective Pixels Calibration' option
- Enter the Defective Pixels Calibration interface with a short press of the Menu button (4).
- A white cross cursor will appear on the display.
- A 2x magnified image of the cross cursor area (PIP) will appear on the lower-left corner of the display that is required to facilitate a search for the defective pixel and to align the marker with it.
- A tooltip will appear at the bottom of the display, which displays the current number of defective pixels calibrated, the moving direction (horizontal ↔ and vertical ↕ directional arrows) and the position of the cursor.
- The horizontal and vertical arrows indicate to move the cursor with the coordinates along the X and Y axes.
- A short press of the Menu button (4) switches the cursor direction from the



horizontal to the vertical and vice versa.

- The icon and text will be changed from white to blue when this direction is activated.
- Use the Up (5)/Down (6) buttons to move the cursor to align its centre with the defective pixel. With a short press to move 1 pixel and long press to move 10 pixels each time.
- After the cursor aligns with the defective pixel, delete the defective pixel with a short press of the Power button (3).
- Then, by moving the cursor across the display, you can delete the next defective pixel.
- Short press the Power button (3) again in the same position to undo the calibration.
- Each time you add or reduce a blind pixel, the number of defective pixels calibrated in the tooltip will change accordingly.
- Long press the Power button (3) to cancel all calibrations done this operation.
- When the cursor is moved near the PIP and prompt box, the PIP and prompt box are automatically moved to the top of the display.
- To exit and save the Defective Pixels Calibration function, press and hold down the Menu button(4).
- No operation within the 10s will exit the interface without saving data.

Ⓐ Compass Calibration - Calibrate the digital compass

- Open the sub menu by pressing the Menu button (4).
- Select the 'Compass Calibration' option with the Up (5) / Down (6) button.
- Enter the compass calibration interface with a short press of the Menu button (4).
- An icon like a triaxial coordinate appears on the screen.

- Rotate the device at least one 360° in three axial directions in 25 seconds according to the direction shown as the icon to complete the compass calibration.



- Press the Power button (3) briefly to terminate and exit the calibration without saving within 25 seconds.

🕒 Time Settings - Reset the system date and time

- Open the sub menu by pressing the Menu button (4).
- Select the 'Time Settings' option
- Enter the time settings interface with a short press of the Menu button (4), that is displayed as Year. Month. Day | Hour: Minute format.
- Short press the Menu (4) button to switch between digits.
- Select the correct value with a short press of the Up (5)/ Down (6) button.
- Long press the Menu button (4) to exit to the upper interface.



📄 System Information - View system information of this device

- Open the sub menu by pressing the Menu button (4).
- Select the 'System Information' option
- Open the system information box with a short press of the Menu button (4).
- Long press the Menu button (4) to exit to the upper interface.

🔄 Factory Reset - Restore Factory Settings

- Open the sub menu by pressing the Menu button (4).
- Select the 'Factory Reset' option
- Enter the 'Factory Reset' sub menu with a short press of the Menu button (4).
- Select the option '✓' to reset to factory settings or 'X' to cancel with the Up (5) / Down (6) buttons.
- Confirm your selection with a short press of Menu button (4).



The following settings will be restored to their factory state before being set by the user:

Image mode - white hot	Image sharpness - level 1
Digital zoom - x1	Display brightness - level 3
Image hue - warm	Calibration mode - A
System time - 00:00 2020/01/01	
Video out / PIP / MIC / Compass / Motion sensor - off	
Automatic Display off/Ultraclear mode / Wi-Fi - off	

⚠️ Note

- Restore factory settings will format memory, so please save the data in advance.
- Restore factory settings, the defective (broken) pixels that has been calibrated may reappear.

🏠 Return To The Main Menu

- Open the sub menu by pressing the Menu button (4).
- Select the 'Return to Main Menu' option
- Return to the main menu with a short press of the Menu button (4).

Wi-Fi FUNCTION

The Finder II series is equipped with wireless communication with external devices (computer, smartphone) via Wi-Fi.

- Press and hold the **Menu (4)** button to enter the menu.
- Select the 'Wi-Fi' option.
- A short press of the **Menu (4)** button switches the Wi-Fi on.
- The device is recognized by an external device under the label 'Finder_xxxxx-xxxxxx', xxxxx-xxxxxx is the SN code of the device.
- Enter the password on an external device, and establish a connection. The initial password is 12345678.
- And then, the device can be controlled through the APP.

Set Wi-Fi name and password

The Wi-Fi name and password of your device can be set in the APP.

- Click the "setting" icon  in the APP to enter the setting interface.
- In the text box, enter and submit the name (SSID) and password of the new Wi-Fi.
- It needs to restart the device to take the new name and password effect.



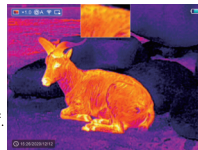
Note

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

PIP FUNCTION

PIP (Picture in Picture) function enables you to view a magnified digital zoom image in a separate 'window' simultaneously with the main image.

- Press and hold the **Menu (5)** button to enter the menu.
- Select the 'PIP Mode' option.
- A short press of the **Menu (5)** button switches the mode on/off.
- A separate window appears at the top of the display simultaneously with the main image.
- The image in the separate window is captured from the center area of the main image and then 2x magnified. But when the laser cursor is on, the PIP image is the image centered on the laser cursor center.



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) to download and update.

The Finder II series support APP technology, and can be connected to a smartphone or tablet PC via Wi-Fi for real-time image transmission, control operations, and program updates.

About Infiray Outdoor

- You can download and install the **Infiray Outdoor** app on www.infirayoutdoor.com or



App store. Otherwise, you can download the app by scanning the 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.
- Instructions for using **InfiRay Outdoor** can also be downloaded from the official website.

TECHNICAL INSPECTION

A technical inspection of the device is recommended before use.

- Check the external appearance of the device (there should be no cracks in the casing).
- Check the condition of the lens and eyepiece (there should be no cracks, greasy spots, dirt or other deposits)
- Check the condition of the rechargeable battery (this should be charged) and the electrical contacts (there should be no presence of salts or oxidation).

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 free of dust and dirt with a cotton cloth. Silicone grease may be used for this.
- Clean the electrical contacts of the battery and battery slot on the unit 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 repairs in the order shown in the table. If a defect should occur that is not listed in the table, or if it is impossible to repair the defect yourself, the device should be returned for repair.

Malfunction	Possible reason	Correction
Thermal imager does not be powered on.	Battery completely discharged	Charge the battery
Does not operate from external power source.	USB cable damaged	Replace USB cable
	External power source discharged	Charge external power source (if necessary).

Malfunction	Possible reason	Correction
Image is unclear, with vertical lines and uneven background.	Calibration required	Perform image calibration according to Section 'Calibration' of the Manual.
The image is too dark.	Low brightness level set.	Adjust display brightness.
Colored lines appeared on display or the image has disappeared.	The device was exposed to static electricity during operation.	After exposure to static electricity, the device may either reboot automatically or require turning off and on again.
Poor image quality/ reduced detection distance	These problems may occur during observation in difficult weather conditions(snow, rain, fog, etc.).	
Smartphone or tablet cannot be connected to the device	The device password has been changed.	Delete the network and reconnect using the device password
	The device is in an area with a large number of Wi-Fi networks that may cause interference.	To ensure stable Wi-Fi operation, relocate the device to an area with fewer Wi-Fi networks, or into an area with none.

Malfunction	Possible reason	Correction
Wi-Fi signal non-existent or interrupted	The device is outside the area of Wi-Fi coverage. 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.
When used in low-temperature conditions, the image quality of the surroundings is worse than in positive temperature conditions.	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. 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.	

IMPORTANT SAFETY INFORMATION

Environmental Influences

WARNING! Never point the lens of the device directly at intense heat sources such as the sun or laser equipment. The objective lens and eyepiece can function as a burning glass and damage the interior components. The warranty does not cover damage caused by improper operation.

Risk Of Swallowing

Caution: Do not place this device in the hands of small children. Incorrect handling can cause small parts to come loose which may be swallowed.

Safety Instructions For Use

- Handle the device and battery pack with care: rough handling may damage the battery pack.
- Do not expose the device to fire or high temperatures.
- Only use the battery charger included in the delivery package.
- The battery capacity decreases when operated in a cold ambient temperature. This is not a fault and occurs for technical reasons.
- Always store the device in its carrying bag in a dry, well-ventilated space. For prolonged storage, remove the batteries.
- Do not expose your device to extreme temperatures lower than - 20°C and higher than + 50°C.
- The product shall only be connected to a USB Type C interface.
- If the device has been damaged or the battery is defective, send the device to our after-sales service for repair.

Safety Instructions For The Power Supply Unit

- Check the power supply unit, cable and adapter for visible damage before use.
- Do not use any defective parts. Defective components must be replaced.
- Do not use the power supply unit in wet or humid environments.
- Only use the original cable provided with the battery charger.
- Do not make any technical modifications.

For further information and safety instructions, please refer to the Operation Instructions provided. This is also available on our website in the download center: www.infrayoutdoor.com.

Disposal Of Batteries



In the European Union, this symbol indicates that the battery used in this product may not be disposed of in domestic waste and must be collected for disposal separately. When returning used batteries, please use a collection system that may exist in your country.

The materials and substances in the batteries may have a detrimental impact on health and the environment. By depositing empty batteries at a recycling facility, you are contributing to the protection, maintenance and improvement of the quality of our environment.

Please only return discharged batteries.

The battery used does not contain mercury, cadmium or lead in quantities exceeding the limits defined in Directive 2006/66/EC.

User information on the disposal of electrical and electronic devices (private households)



The WEEE symbol on products and/or accompanying documents indicates that used electrical and electronic products must not be mixed with ordinary household waste. For proper treatment, recovery and recycling, take these products to the appropriate collection points where they will be accepted without charge.

In some countries, it may also be possible to return these products to your local retailer when you purchase a corresponding new product. The proper disposal of this product serves to protect the environment and prevents possible harmful effects on human beings and their surroundings, which may arise as a result of incorrect handling of waste.

More detailed information on your nearest collection point is available from your local authority. In accordance with state legislation, penalties may be imposed for the improper disposal of this type of waste.

For business customers within the European Union

Please contact your dealer or supplier regarding the disposal of electrical and electronic devices. He will provide you with further information.

Information on disposal in other countries outside of the European Union

This symbol is only applicable in the European Union. Please contact your local authority or dealer if you wish to dispose of this product and ask for a disposal option.

Intended Use

The device is intended for displaying heat signatures during nature observation, remote hunting observations and for civil use. This device is not a toy for children.

Use the system only as described in this instruction manual. The manufacturer and the dealer accept no liability for damages which arise due to non-intended or incorrect use.

Function Test

- Before use, please ensure that your device has no visible damage.
- Test to see if the device displays a clear, undisturbed image.
- Check that the settings for the thermal imaging monocular are correct. See the notes in the section Operation.

Installing/Removing The Battery

The Finder II series thermal imaging monocular is equipped with a battery pack. The battery pack can be moved and charged, referring to the section Battery Pack for details.

Observation With And Without Glasses

Thanks to the flexible eyeshade, the Finder II series can be used with or without glasses. It offers a full field of view in both cases.

Legal and Regulatory Information

Wireless transmitter module frequency range:

WLAN: 2.412–2.472GHz (For EU)

Wireless transmitter module power<20dBm (only for EU)



IRay Technology Co., Ltd. thus declares that the Finder II series complies with the directives 2014/53/EU and 2011/65/EU. The full text of the EU declaration of conformity as well as additional information are available at: www.infirayoutdoor.com.

This device may be operated in all member states of the EU.

This equipment meets the government's requirements for exposure to radio waves. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons regardless of age or health.

The highest SAR value reported under this standard during product certification for use at the head is 0.005W/kg and when properly worn on the body is 0.016W/kg. This device was tested for typical body-worn operations with the back of the handset kept 0.5cm from the body.

Body Operation

This device was tested for typical body-support operations. To comply with RF exposure requirements, a minimum separation distance of 0.5cm must be maintained between the user's body and the handset, including the antenna. Third-party belt-clips, holsters, and similar accessories used by this device should not contain any metallic components. Body

accessories that do not meet these requirements may not comply with RF exposure requirements and should be avoided. Use only the supplied or an approved antenna.

FCC Statement

FCC ID: 2AYGT-26-00

Labeling Requirements

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Information To User

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This equipment meets the government's requirements for exposure to radio waves. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons regardless of age or health.

The highest SAR value reported under this standard during product certification for use at the head is 0.011W/kg and when properly worn on the body is 0.034W/kg. This device was tested for typical body-worn operations with the back of the handset kept 0.5cm from the body.

Body Operation

This device was tested for typical body-support operations. To comply with RF exposure requirements, a minimum separation distance of 0.5cm must be maintained between the user's body and the handset, including the antenna. Third-party belt-clips, holsters, and similar accessories used by this device should not contain any metallic components. Body accessories that do not meet these requirements may not comply with RF exposure requirements and should be avoided. Use only the supplied or an approved antenna.

We, IRay Technology Co., Ltd., hereby declare that this product was tested conforming to the applicable FCC rules under the most accurate measurement standards possible, and that all the necessary steps have been taken and are in force to assure that production units of the same equipment will continue to comply with the Commissions requirements.