

# Quick Start Guide

Long-Tube Infrared Thermal Imager



- USER MANUAL -



Under no circumstances (power on/off), do not stare directly at high-intensity radiation sources such as the sun.



Do not touch the surface of the lens.



Do not disassemble the battery cell.



Do not touch the Type-C port with wet hands.



Do not bend or damage any connecting cables.

# Package Contents

Package Dimensions	Total Packaged Weight
490×130×130mm	≤ 2300g

  
	Product Main Body (x1)
	Mounting Bracket (x1)
	Uaer Manual (x1)
	18650 Li-ion Battery (x2)
	Lens Cleaning Cloth (x1)
	Objective Lens Cover (x1)
	Eyecup (x1)

# CATALOGUE

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Thank you for choosing us! Prior to use, please review this user manual for an optimal experience. For any inquiries, feel free to contact us. Note that product updates may occur without prior notice.

## 1 Product Overview

T-IR is specifically designed for outdoor hunting and observation. With high sensitivity (NETD <35mK), a long detection range (up to 4,700 meters), and a wide field of view (up to 22m@100m), it enables rapid identification of wildlife targets in forests or open areas. It is particularly suitable for precision hunting and ecological observation in complex day and night environments.

## 2 Functional Features

1. Real-time image noise reduction function;
2. No shutter correction;
3. Adjustable contrast and brightness;
4. Pseudo-color mode (8 types): white hot, black hot, iron red, desert yellow, green hot, red hot, sky, edge;
5. Image output resolution: OLED: 1024×768;

6. Blind element compensation function;
7. Hot tracking function;
8. Wi-Fi image transmission, photo and video recording function;
9. Recoil-activation function, can record a video before and after shoot;
10. Probability ranging function;
11. Picture-in-picture function;
12. Multiple reticles;
13. Support for Chinese, English, and Russian language (customizable );
14. Support for exporting image and video files via Type-C interface;
15. Support for charging the two built-in batteries via Type-C interface;

### 3 Product Appearance



#### 1. Focus Wheel

After powering on, align the product with the observation target. Rotate the focus wheel until the image is clear.

#### 2. Type-C Interface

For picture and video data transmission and external analog display (PAL) output. Note: The external analog output display needs to be customized by the manufacturer.

#### 3. Diopter Adjustment

Matches different users' viewing acuity, adjustable from -5 to +5.

## 4 Button Definitions

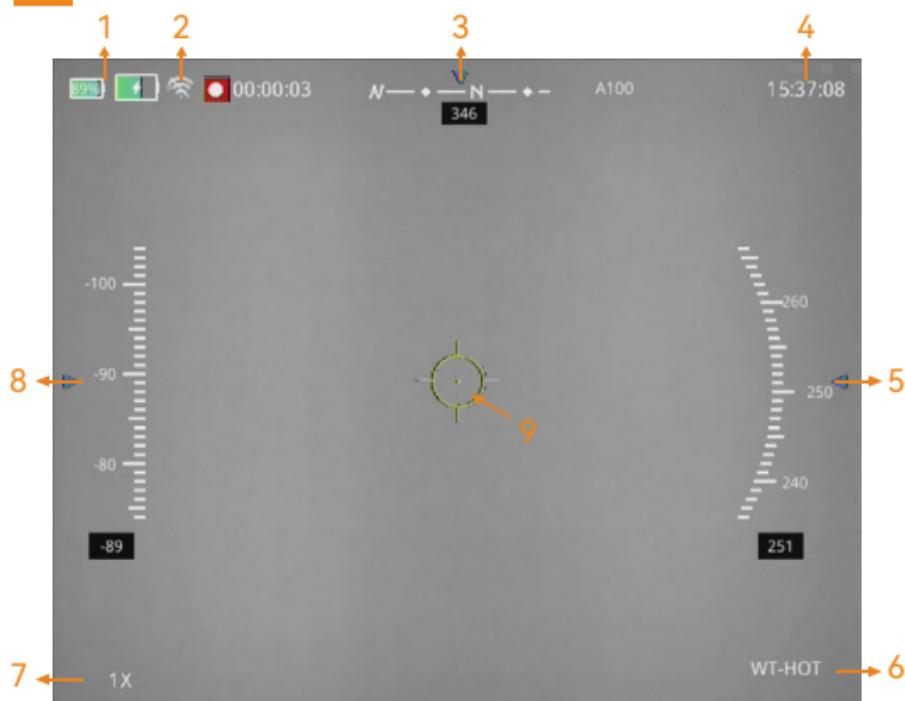
Button	Device Status / Current Mode	Short Press	Long Press
Power	Power Off	/	Power On
	Main Interface	Standby	Power Off
	Standby	Wake-up Mode	/
Image Mode	Main Interface	Pseudo-color Mode Switch	Turn On/Off Picture-in-Picture
Capture		Capture and Save Photo	Start/ Stop Recording and Save Video File
Zeroing		/	Enter Calibration Mode

Button	Device Status / Current Mode	Short Press	Long Press	Rotate
Rotary Controller	Main Interface	/	Enter Main Menu	Digital Zoom
	Menu Interface	/	Confirm/EnterNext Level Menu	Switch Options/ Move Cursor/ CW: Move Right/Down/+ CCW: Move Left/Up/-
	Zeroing	Switch X / Y Axis		
	Network			
	H-Tracking			
	PIP			
	Compass			
	Image			
	BP CLR	Switch X / Y Axis		
	Restore			
	Date&Time			
	Language			
	Display			
	ID			

## 5 Product Parameter

Detector Parameters		
Type	Uncooled VOx Microbolometer	
Resolution/ pixels	640×512/12μm	
Spectral Band	8~14μm	
NETD	≤ 35mk@300K	
Frame Rate	50Hz	
Optical Parameters		
Objective Lens	35mm(F1.0)	50mm(F1.0)
Field of View	12.5° ×10°	8.7° ×7°
Visual Magnification	2~8x	3~12x
Digital Zoom	1~4x	
Eye Relief	50mm	
Eyepiece Diopter	-5~+5	
Detection Range (Human)	3310m	4730m
Detection Range (Vehicle)	4480m	6390m
Screen & Battery Power Params		
Type	0.39" OLED	
Resolution	1024×768	
Battery Type	Two 18650 Li-ion Batt. (Int.) + One 18650 Li-ion Batt. (Ext.)	
Standby Time (22°C)	15h	
External Power Supply	5V(Type-C)	
Physical Parameters		
Scope Tube Diameter	30mm	
Reliability	1200g Shock Resistance	
Protection Rating	IP67	
Memory Capacity	32GB	
Operation Temperature	-20°C ~+50°C	
Weight (No Batt.)	≤ 980g	
Dimensions	430×105×77mm	440×105×77mm

## 6 Main Interface



Main Interface Diagram

Index	Interface Info
1	Battery Level ( Left: Ext. / Right: Int. )
2	Wi-Fi Status
3	Compass Heading
4	Time
5	Compass Roll Angle
6	Pseudo-color Mode
7	Zoom Level
8	Compass Pitch Angle
9	Reticle

## 7 Menu Introduction

Icon	Name	Description
	Zeroing	Entering Gun Calibration Mode
	Network	Wi-Fi Switch
	H-Tracking	Hot Tracking Switch
	PIP	Picture-in-Picture Switch
	Compass	Digital Compass Switch/Calibration
	Image	Contrast/Brightness/Sharpness/ Pseudo-color Adjustment
	BP CLR	Adjust the threshold button to eliminate the bad pixels and save
	Restore	Restore the default parameters
	Date&Time	Time and date adjustment
	Language	Chinese/English/Russian Switch
	Display	Adjusting OLED Cool/Warm Tone
	ID	Device information

## 8 Operation Introduction

### 8.1 Quick Operations

## 1. Power On/Off/Standby

Under the state of power off, long press the power button, the device starts and the boot screen appears.

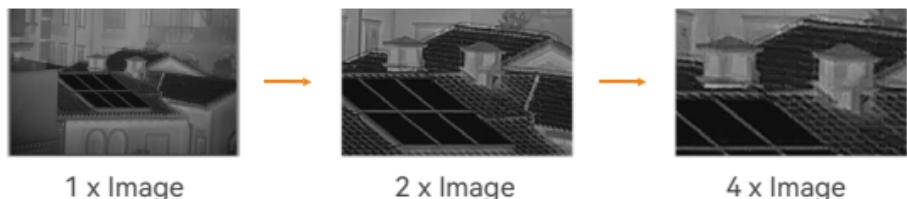
Under the power-on state, short press the power button to enter standby.

Long press the power button, the shutdown prompt appears, shutdown.

In standby mode, short press the power button to end the standby mode.

## 2. Digital Zoom

While powered on, on the main screen, rotate the Controller clockwise for 1x, 2x, 4x zoom. Rotate counterclockwise for 4x, 2x, 1x zoom.



## 3. Calibration Mode

### 1) Gun Type Memory:

Long press calibration button to enter the mode. Rotate Controller to switch options: "Gun Type," "X," "Y," "Division Type," "Cursor Color." Short press to adjust values by rotation. Short press "Save" to save and exit.

### 2) X-axis Adjustment:

Long press calibration button to enter the mode. Rotate to "X" option. Short press to adjust X-axis cursor position by rotation.

### 3) Y-axis Adjustment:

Long press calibration button to enter the mode. Rotate to "Y" option. Short press to adjust Y-axis cursor position by rotation.

### 4) Reticle Style Switch:

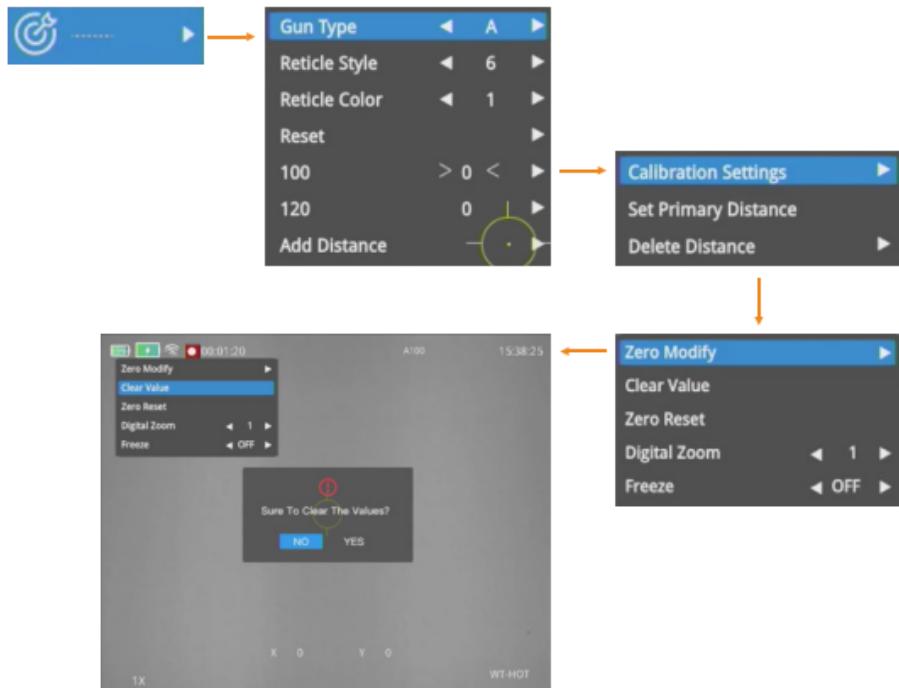
Long press calibration button to enter the mode. Rotate to "Division Type" option. Short press to reticle division style by rotation.

### 5) Reticle Color Switch:

Long press calibration button to enter the mode. Rotate to "Cursor Color" option. Short press to adjust reticle color by rotation.

### 6) Save:

Long press calibration button to enter the mode. Rotate to "Save" option. Short press Controller to save configuration.



#### 4. Pseudocolor Mode

Short press the image mode button to switch to pseudocolor mode. Pseudocolor options include: white hot, black hot, iron red, desert yellow, green hot, red hot, sky, edge.

#### 5. Photo/Video Capture

While in the main screen during startup, short press the capture button for a photo; a confirmation message indicates success. Long press for video recording; a timer appears. Long press again to stop; a confirmation message indicates success. Video recording also activates upon strong impact.

#### 6. Menu Access

After startup, short press the Controller to access the menu on the main screen. Use clockwise or counterclockwise rotation to navigate through the main menu options. Short press to select sub-menu options.

Long press the Controller to return to the previous menu or exit the main menu.

Once in the menu, refer to the menu guide for specific definitions and options.

## 8.2 Menu Operations

#### 1. Network

Short press the Controller enter the main menu. Choose the "Network" to turn on hotspot or turn off Wi-Fi.



## 2. H-Tracking

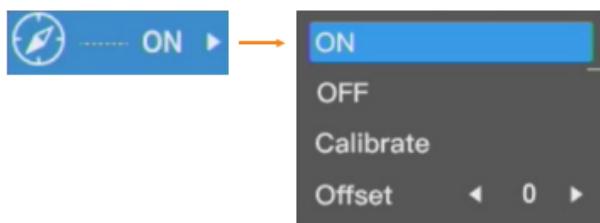
Short press the Controller enter the main menu. Choose "H-Tracking" to turn on/off hot tracking.

## 3. PIP

Short press the Controller enter the main menu. Choose the "PIP" to turn on/off Picture-in-Picture. While in PiP mode, using digital zoom will only magnify the small window screen.

## 4. Compass

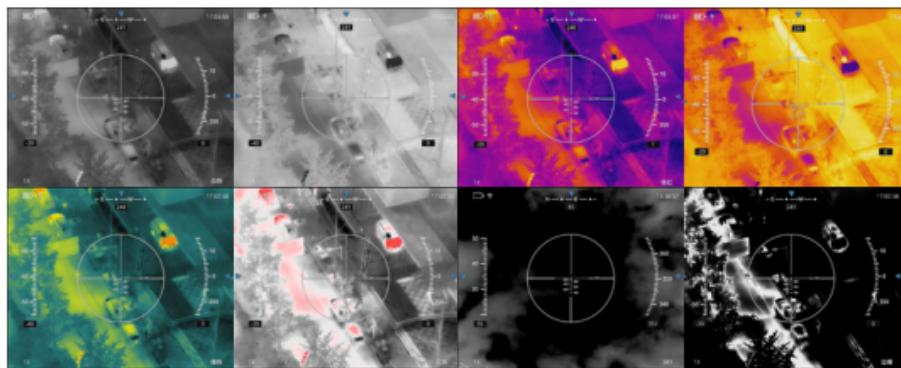
Short press the Controller enter the main menu. Select "Compass" for calibration and offset adjustments.



## 5. Image

Short press the Controller enter the main menu. Choosing "Image" opens a submenu for adjusting settings like contrast, brightness, sharpness level, and pseudo-color mode.

- 1) Contrast adjustment range: 0 to 10, recommended setting is 6;
- 2) Brightness adjustment range: 0 to 10, recommended setting is 6;
- 3) Sharpness adjustment range: 0 to 7;
- 4) Pseudo-color mode: white hot, black hot, iron red, desert yellow, green hot, red hot, sky, edge.



## 6. BP-CLR

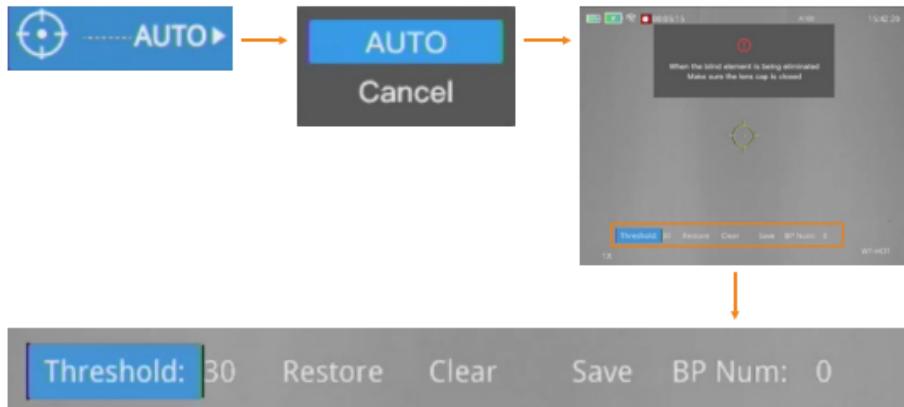
Please make sure the lens cover is closed before using this function! After entering this function, several options are displayed, including Threshold, Restore, Remove, Save, and Bad Pixel Number. Threshold can be adjusted by Controller button, the threshold range is 20~32, the smaller the threshold, the more bad pixels can be cleared, it is recommended to set the threshold near 26.

When the option is on the Restore option, short press Controller button to undo the last operation.

When the option is on the remove option, short press the Controller button, all the bad pixels of the screen will be eliminated. And the bad pixel number will show the bad pixel number corresponding to the current threshold value. when the bad pixel number is greater than 1000, it is considered to be an over-calibration behavior, at this time, you should restore first, then adjust the threshold value to a greater value, and continue to clear, if the bad pixel number is still greater than 1000, repeat the above steps until the number is less than 1000.

Be careful to carry out the save operation when the bad pixel number is greater than 1000.

When the option is on the save option, short press the Controller button to save all previous operations.



#### 7. Restore

Short press the Controller enter the main menu. Choose "Restore" then select either restore or cancel.

#### 8. Date&Time

Short press the Controller enter the main menu. Navigate to "Date&Time" , adjust the date and time. Short press to select and rotate the Controller for adjustment.

#### 9. Language

Short press the Controller enter the main menu. Choose "Language" to switch between Chinese, English, or Russian.

#### 10. Display

Short press the Controller enter the main menu. Choose "Display" and adjust the OLED color tone with "Cool" or "Warm" options.

## 8.3 General Operations

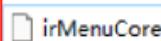
### 1. Read Data

Insert the Type-C cable into the device and connect the other end to your computer. Then, double-click "My Computer" to access and manage photos and videos on the SD card.

Note: All photos are stored in the 'Image' folder, and all videos are stored in the 'Video' folder.

### 2. OTA Upgrade

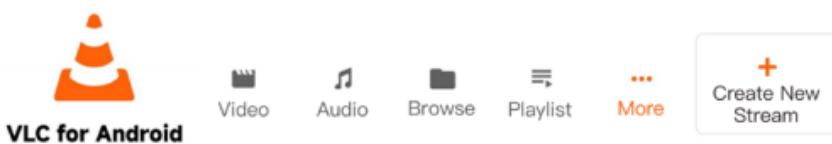
- 1) Contact the manufacturer to obtain the corresponding version software upgrade package.
- 2) Unzip the software package and remove the corresponding suffix. Keep only the red-highlighted as shown in the image.

 irMenuCore\_Split\_B\_YAOGAN\_EW\_202309050948\_UI\_Orange\_removeStandby

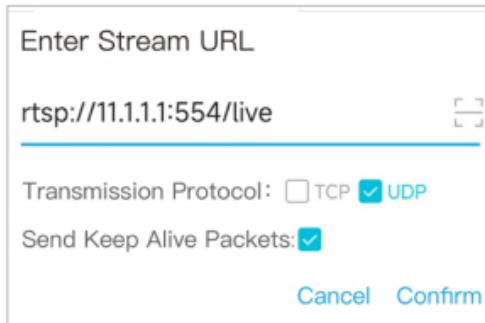
- 3) Connect the device to the computer via USB Type-C interface. Drag the upgrade package to the "upgrade" folder.
- 4) Power on and off the device twice. If the system menu bar changes from transparent to yellow, the upgrade is successful.

## 8.4 Exploring through the App

Activate the "Hotspot" feature in the "Network" menu and enable Wi-Fi on your phone. Connect to "Camera-IR" network with password 87654321. Launch the VLC App (available for downloaded from the App store or browser), click on "More" options, and create a new stream.



Enter the address and click "Confirm" to observe the real-time image on the mobile device.



## 9 Precautions

1. Do not attempt to disassemble the battery. If the battery leaks and liquid enters the eyes, immediately rinse the eyes with clean water and seek medical attention.
2. Avoid aiming the device directly at strong heat radiation sources such as the sun, lasers, welding machines, etc., to prevent irreversible damage.
3. Do not use or store the device in environments exceeding the working temperature or storage temperature.
4. Do not use dissolved and corrosive liquids on the equipment and cables, as this may cause damage to the device.
5. Keep the battery away from damp environments or water. If using this product in humid conditions, ensure that the Type-C interface cover is securely closed.
6. Please do not disassemble the device on your own to avoid damaging the equipment and losing warranty rights.

## 10 Trouble Shooting

### 1. Device won't turn on

Solution: Press and hold the power button for 10 seconds to force a shutdown, then long press the power button again to turn it on.

### 2. Device can't take photos/record videos

Solution: Internal storage is full. Transfer data and format the memory.

### 3. Device displays incorrect time

Solution: Reset the product's time and date in the menu.

### 4. Screen turns off during use

Solution: Press the power button short to wake from sleep and light the screen.

### 5. Blurry imaging during use

Solution: Turn the view handwheel counterclockwise until you can clearly see the main interface date, time, Wi-Fi signal, battery level, or menu functions. Then manually turn the focus handwheel to focus until the target is displayed clearly.

## 11 Storage and Transport

Here are methods for the product storage and transportation. To prevent potential dangers and property loss, please read carefully before use.

### **Storage:**

1. Store the device in an environment of -45° C to 60° C, with relative humidity not exceeding 95%, free from corrosive gases, and with good indoor ventilation.
2. Charge the battery every two months.

### **Transport:**

During transportation, avoid rain, water immersion, upside-down positioning, and prevent severe vibration and impact. Handle with care during transportation, and strictly avoid dropping.

## FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

• Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

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.

## RF Exposure Information

The device has been evaluated to meet general RF exposure requirement.

The device can be used in portable exposure condition, compliance with exposure requirements.

