Quick Start Guide

Uncooled Infrared Thermal Imager

Thank you for choosing us! To ensure you have the best user experience, we recommend reading this user manual carefully before use. If you have any questions, please feel free to contact us.

▌01 Product Overview

This multifunctional thermal imager is an advanced infrared observation device featuring a sensitive uncooled VOx detector and a high-definition 1024x768 display. Utilizing no-shutter technology, it offers flexibility with various lens options, making it ideal for distance observation in a variety of scenarios.

▌02 Package Contents

Package Dimensions	Total Packaged Weight
300×210×90mm	≤1700g
Main Unit	User Manual
	Quick Start Guide
Lens Cleaning Cloth	Carry Bag
18650 Li-ion Batteries	Installation Bracket

03 Product Appearance

Objective Lens Cover
Battery Compartment
Battery Compartment Cover
Eye Cup

Focus Wheel
Type-C
Diopter Adjustment Wheel

Mounting Base
Joystick

1. Focus Wheel

After powering on the product, align it with the observation target. If the distance to the observation target changes and the image becomes blurry, rotate the lens focus wheel to refocus until the target image is clear.

2. Mounting Base

Used for fixed equipment, with shock absorption function to ensure stable installation position, and provide tripod mounting holes.

3. Type-C Interface

Used 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.

4. Diopter Adjustment

Used to match the best viewing acuity of different users, with an adjustment range from -5 to +5.

▌04 Joystick Operation

Joystick Operation	Menu Operation	Long Press	Short Press
Upward	Move Upwards in Main Menu	Outdoor Mode	Electronic Zoom
Downward	Move Downwards in Main Menu	Turn On/ Off Wi-Fi	Pseudo-color Mode Switch
Forward	/	Enter Grid Mode	/
Backward	Submenu Option	Video Recording	Capture and Save Photo/Confirm Key (Menu Mode)
Middle	Entry/Exit Menu	Power On/Off	Entry/Exit Menu

▌05 Safety Guidelines

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 permitted working temperature or storage temperature.

4. Do not use solvents or similar liquids on the equipmentand cables, as this may cause damage to the device.

5. Please avoid soiling the optical surface of the lens when using the device. Particularly, refrain from touching the lens with hands as sweat may corrode the optical coating on the glass surface.

6. 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.

7. Please do not attempt to disassemble the device on your own to avoid damaging the equipment and losing warranty rights.

▎06 Specifications

| Specifications				
Model	384		640	
Detector	Uncooled VOx Microbolometer			
Resolution, pixels	384×288		640×512	
Objective Lens (F1.0)	19mm 25mm 35mm		25mm 35mm	
Field of View	13.9°×10.4° 10.6°×7.9° 7.5°×5.7°		17.6°×14.1° 12.6°×10.1°	
Visual Magnification	1.75~7.01 2.3~9.22 3.23~12.91		1.35~5.4 1.89~7.56	
Spectral Band	8~14μm			
Pixel Size	12μm			
Frame Rate, Hz	50Hz			
NETD	≤35mk@300K			
Display	0.39" OLED 1024x768			
Eyepiece Diopter	–5~+5			
Eye Relief	45mm			
Power Supply	Two 18650 Lithium-ion Batteries			
Weight (Including Battery)	≤770g			
Standby Time	≥8h			
Dimensions	232×81×62mm (Including Eyepiece/Objective Lens Caps)			
Interface	External Power/Type-C			
Operation Temperature	–30℃ ~ +55℃			
Protection Rating	IP67			
Reliability	≥1200g Shock Resistance			
Altitude	≥5000m			
Adaptability	All-weather			
Detection Range (Human)	19mm/800m 25mm/1040m 35mm/1460m			
Detection Range (Object)	19mm/2430m 25mm/3200m 35mm/4480m			

Note: Due to continuous product improvements and upgrades, parameters in the table may be subject to modifications without further notification.

07 Menu Instructions

Name	Description	Icon
ID	Device ID	
Network	Turn on/off Network	
Language Selection	Support Chinese/English/ Russian language selection	
Red Dot/Laser (Optional)	Red Dot/Laser Switch Coordinate Adjustment	
Hotspot Tracking	Turn on/off Hotspot Tracking	
Picture-in-Picture	Turn on/off Picture-in-Picture	
Electronic Compass	Electronic Compass Switch/Calibration	
Image Adjustment	Contrast/Brightness/Sharpness/ Pseudo-color Adjustment	
Blind Element Elimination	If blind elements appear during use, adjust cursor coordinate to eliminate blind elements and save backups.	
Restore Factory Settings	Restore Parameters to Default	
Time Setting	Set Time	

08 Main Interface
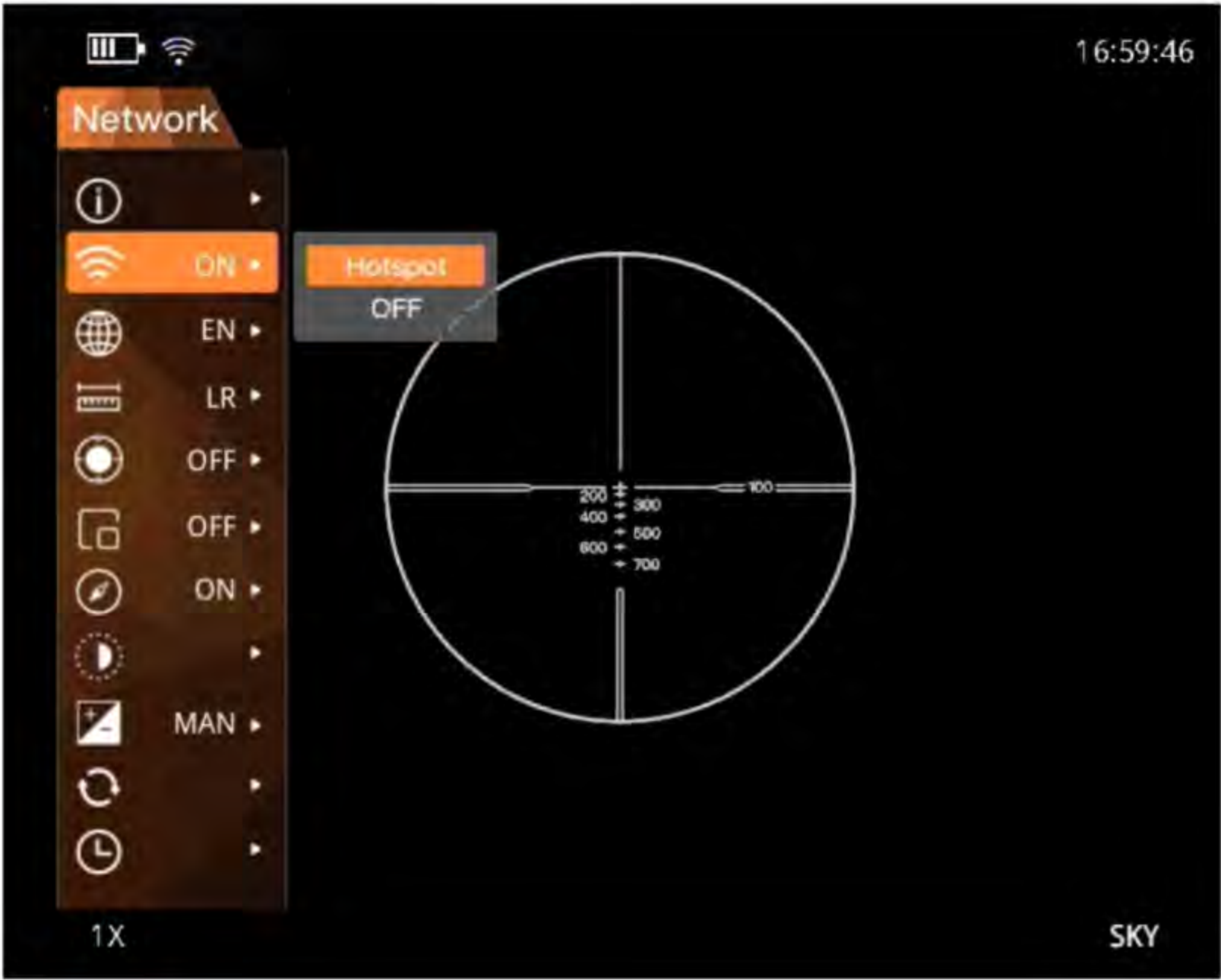
❙09 User Guide

01 Power On

When powered off, long press the joystick to start the device and the startup screen will appear.

02 Power Off

When powered on, long press the joystick. The system will display the shutdown prompt and then power off.

03 Diopter Adjustment

The eyepiece diopter can be adjusted using the focusing wheel to accommodate users with different levels of astigmatism.

04 Focusing

Adjust the objective lens using the focusing wheel to observe distances from 3m to infinity. Rotate counter clockwise for distant focus and clockwise for near focus.

05 Electronic Zoom

When powered on, short press the joystick upwards on the main screen to cycle through image zoom levels of 1x, 2x, and 4x.

1× Image   2× Image   4× Image

06 Menu

After powering on, short press the joystick to enter the menu in the main interface. Use up and down short presses to navigate through the main menu options, and use the backward short press to switch sub-menu options. Short press the joystick to return to the previous menu or exit the main menu.

07   Language Settings

Short press the joystick to enter the main menu, select Language Settings in the sub-menu, and choose different languages.

08   Red Dot/Laser (Optional)

Short press the joystick to enter the main menu, select Red Dot/Laser in the sub-menu, and adjust the X/Y coordinates for Red Dot/Laser ranging.

09   Grid Mode

1. Partition Memory: Long press forward to enter Partition mode, short press upward/downward to switch modes.

2. X-axis Coordinate Adjustment: Long press forward to enter Partition mode, short press backward to enter X-axis coordinate adjustment, short press upward/downward to adjust the crosshair's X-axis coordinate.

3. Y-axis Coordinate Adjustment: Long press forward to enter Partition mode, short press backward to enter Y-axis coordinate adjustment, short press upward/downward to adjust the crosshair's Y-axis coordinate.

4. Crosshair Style Switch: Long press forward to enter Partition mode, short press backward to enter crosshair style adjustment, short press upward/downward to switch styles.

5. Crosshair Color Switch: Long press forward to enter Partition mode, short press backward to enter crosshair color adjustment, short press upward/downward to switch colors.
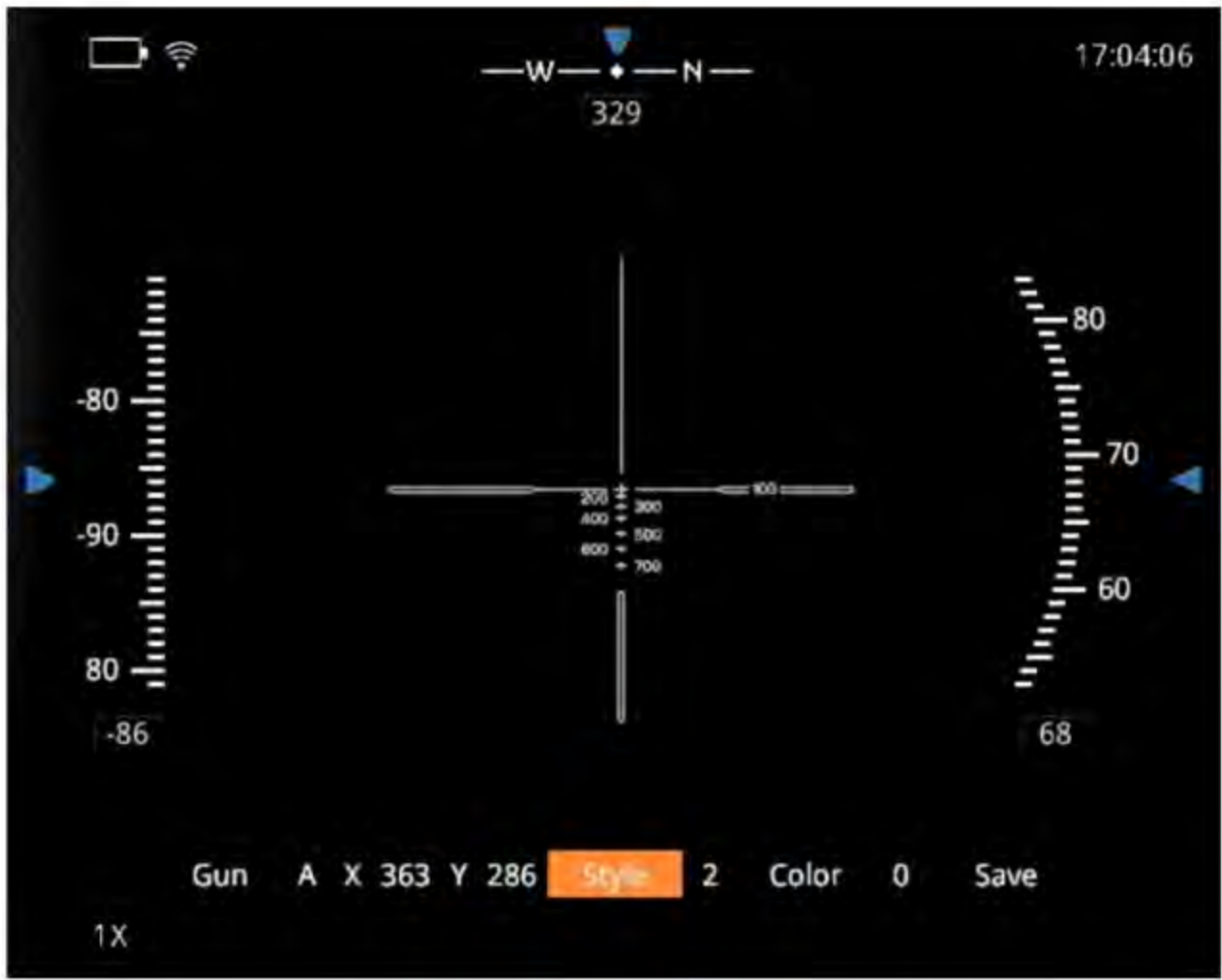
10 Picture in Picture Settings

Short press the joystick to enter the main menu, select Picture-in-Picture to enter the submenu, and choose to enable or disable the Picture-in-Picture function. In Picture-in-Picture mode, digital zoom only magnifies the small window image.

11 Electronic Compass

Short press the joystick to enter the main menu, select Electronic Compass in the sub-menu, and calibrate the device and set the offset.

12 Image Adjustment

Short press the joystick to enter the main menu, select Image Adjustment in the sub-menu, and adjust contrast, brightness, sharpness level, and pseudo-color mode.

Contrast adjustment range: 0-10;
Brightness adjustment range: 0-10 (recommended setting to 7);
Sharpness adjustment range: 0-7;
Pseudo-color mode: White Hot, Red Hot, Black Hot, Green Hot, Iron Red, Desert Yellow, Edge, Sky.
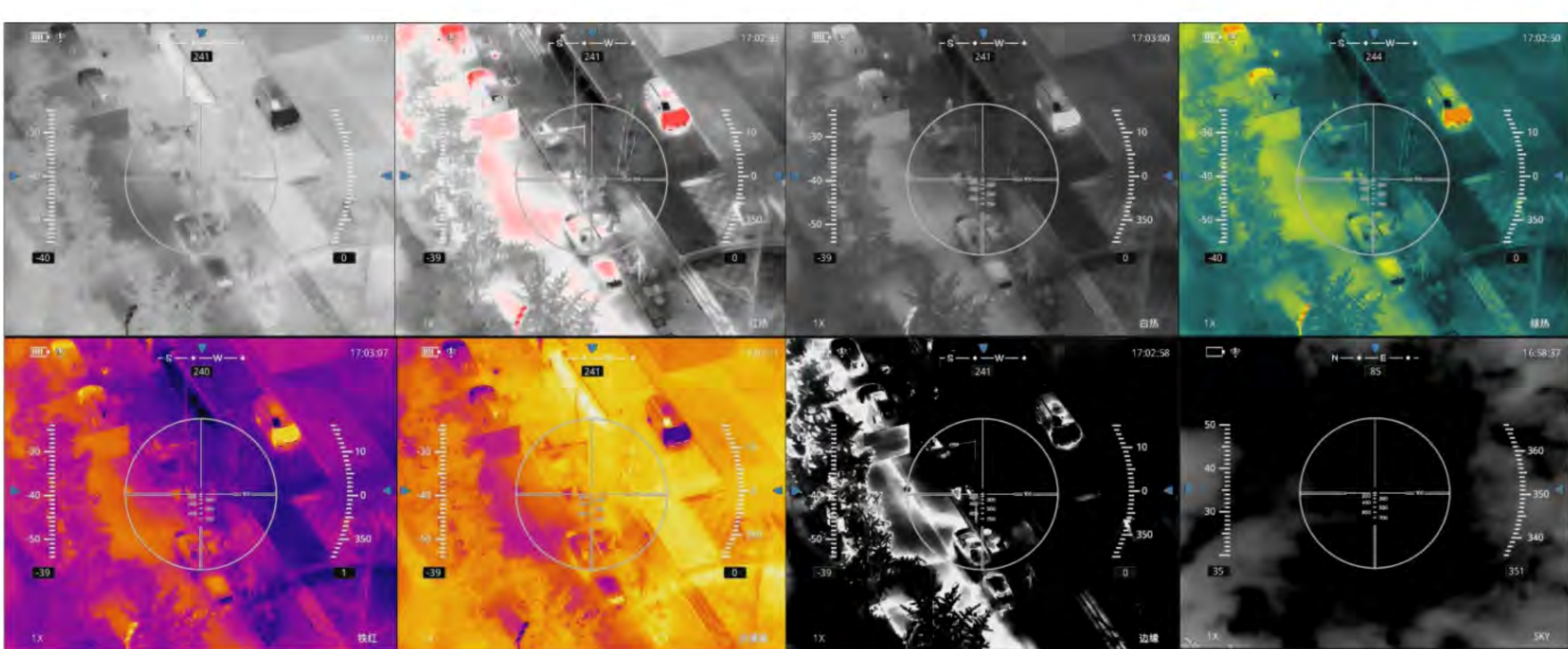
13　Blind Elements Elimination

Short press the joystick to enter the main menu, select Blind Elements Elimination in the sub-menu, adjust X/Y coordinates to eliminate blind spots and save.

14　Factory Reset

Short press the joystick to enter the main menu, select Factory Reset in the sub-menu, and follow the prompts to choose to restore or cancel the restoration.

15　Time Setting

Short press the joystick to enter the main menu, select Time Setting in the sub-menu, and adjust the date and time separately. Use the backward button for selection and short press up/down for adjustment.

16　OTA Upgrade

1. Contact us to obtain the software upgrade package.

2. Unzip the software package and delete the suffix, as shown in the figure below, keep only the red key parts.

irMenuCore_Split_B_YAOGAN_EW_202309050948_UI_Orange_remov
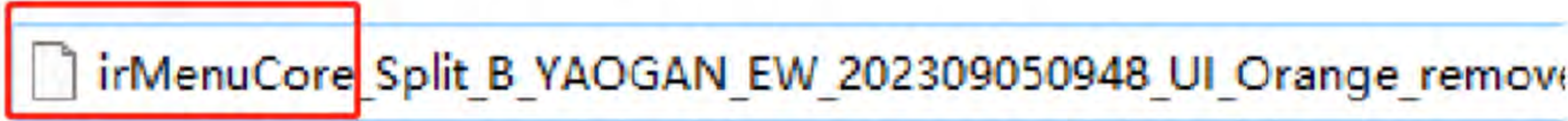
3. Connect the device's Type-C port to computer and drag the upgrade package to the Upgrade path.

4. Perform power on and off operations twice; the system menu bar will change from transparent to yellow, indicating a successful upgrade.

17 Photo/Video Capture

When powered on, short press the joystick backward to capture a photo with a saved photo notification. Long press the joystick backward to record a video, the screen will show the recording time. Long press the joystick backward again to save the video.
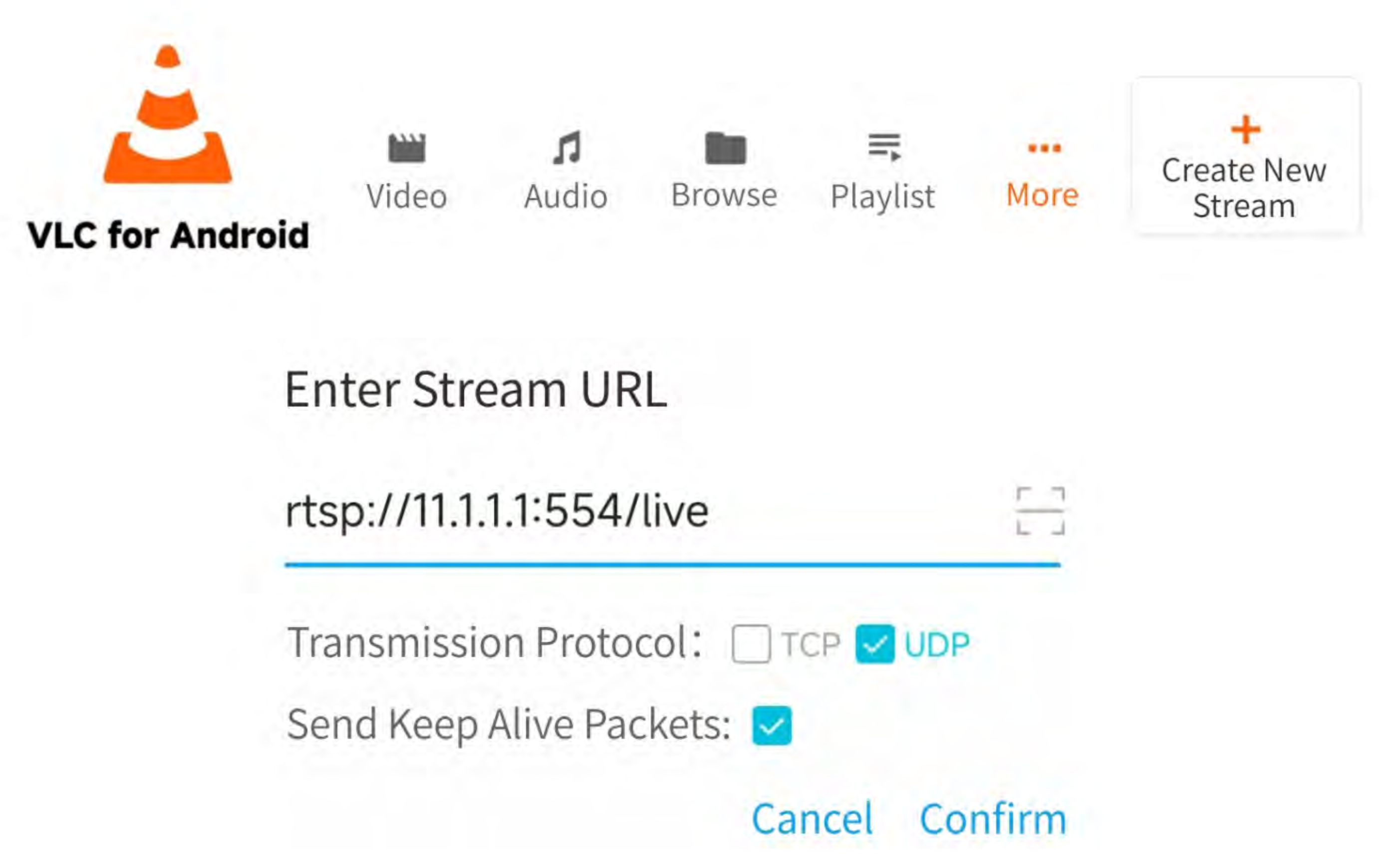
18 Data Retrieval

Open the bottom USB cover, insert the Type-C data cable, connect the other end to the computer to access the photos and videos stored in the SD card of the device.
Note: Photos stored in the "image" folder; Videos stored in the "video" folder.

19 Exploring through the App

Activate the hotspot feature in the main 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.

VLC for Android   Video   Audio   Browse   Playlist   More   + Create New Stream

Enter Stream URL

rtsp://11.1.1.1:554/live

Transmission Protocol: ☐ TCP ☑ UDP

Send Keep Alive Packets: ☑

Cancel   Confirm

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

▌10 Common Troubleshooting Guide

1. Device won't power on
Solution: Replace the battery.

2. Device can't take photos/record videos
Solution: Internal storage is full. Transfer 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: Short press the forward button to wake up from sleep and light the screen.

5. Blurry imaging during use
Solution: Manually adjust the lens for focus until the display is clear.

▌11 Storage and Transportation

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 three months at fixed intervals.

Transportation:

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 Warning

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 inte rference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance 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 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 interferenceto 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.

Specific Absorption Rate (SAR) information

This device meets the government's requirements for FCC exposure limits set forth for an uncontrolled environment. This device was tested for typical body-worn operations with the back of the Uncooled Infrared Thermal lmager kept 0 mm from the body. To maintain compliance with FCC RF exposure requirements, use accessories that maintain an 0 mm separa tion distance between the user's body and the back of the Uncooled Infrared Thermal lmager. The use of belt clips, holsters and similar accessories should not contain metallic components in its assembly. The use of accessories that do not satisfy thes e requirements may not comply with FCC RF exposure requirements, and should be avoided.