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ACE 2

Thermal Imaging Scope

User Manual

ACE 2 S60R / ACE 2 H50R / ACE 2 H35R

V1.0

IMPORTANT SAFETY INFORMATION

Environmental influences

- 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.
- Avoid touching the metal surface (cooling fins) after exposure to sunlight or cold.

Ergonomics notes

Take breaks after longer periods of use to avoid wrist pain.

Risk of swallowing

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 with care: rough handling can damage the internal battery.
- Do not expose the device to fire or high temperatures.
- Install the batteries correctly according to the instruction on the device. Reverse connection is prohibited.
- The battery capacity decreases when operated in a cold ambient temperature. This is not a fault and occurs for technical reasons.
- The recommended temperature for using this product is -20° to +50°. Otherwise, it will affect the service life of the product.
- Do not store the device for long periods at temperatures below -20°C or above 50°C, or it will permanently reduce the battery capacity.
- Always store the device in a dry, well-ventilated space.
- 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

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- 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 charge the device at temperatures ranging between 0°C and 50°C.
- Do not make any technical modifications.

Disposal of batteries

Directive 2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. For battery details, refer to the documentation of the specific product. The battery is marked with this symbol, which may include Cd (indicating cadmium), Pb (indicating lead), or Hg (indicating mercury). For proper recycling, please return the battery to your supplier or send it to a designated collection point. For more information, visit www.nocpix.com

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

2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info.

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

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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 device only as described in this operating 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 **Power On and Image Settings**.

Installing/Removing the battery

The ACE 2 Thermal Imaging Scope is equipped with two power supply systems - one built-in battery pack and one replaceable 18650 battery.

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1 Specifications

Model	**ACE 2 H35R**	**ACE 2 H50R**	**ACE 2 S60R**
Detector Specifications			
Type	Vox	Vox	Vox
Resolution, Pixels	640×512	640×512	1280×1024
Pixel Size, um	12μm	12μm	12μm
NETD, mK	≤ 12	≤ 12	≤ 12
Frame Rate, Hz	60	60	30/60
Optical Specifications			
Objective Lens, mm	35/F0.9	50/F0.9	60/F1.0
Field of View (H×V), º	12.6° ×10.1°	8.8° ×7.0°	14.7° ×11.7°
Linear Field of View (H×V), m @ 100m	21.9m x 17.6m	15.4m x 12.3m	25.6m x 20.5m
Basic Optical Magnification, ×	2~4	3~6	2~4
Max. Magnificaiton	20x	24x	28x
Eye Relief, mm	60	60	60
Exit Pupil Diameter, mm	10	10	10
Diopter, D	-5~+4	-5~+4	-5~+4
Detection Range, m(Target Size: 1.7m×0.5m, P(n)=99%)	1800	2600	3100

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Display Specifications			
Type	AMOLED	AMOLED	AMOLED
Resolution	2560×2560	2560×2560	2560×2560
Battery Power Supply			
Battery	Built-in battery/3650mAh + Replaceable18650 battery/3650mAh		
Max. Operating Time (22ºC), h*	8	8	7
External Power Supply	5V (Type C)	5V (Type C)	5V (Type C)
Physical Specifications			
Wi-Fi / APP	Support	Support	Support
Photo / Video Recorder	Support	Support	Support
Recoil Activated Video	Support	Support	Support
Gallery	Support	Support	Support
Memory Capacity	64GB	64GB	64GB
IP Rating	IP67	IP67	IP67
Operating Temperature, ℃	-20 ~ +50	-20 ~ +50	-20 ~ +50
Weight, g	850	920	980
Dimension, mm	367x65x92	383x70x92	397x73x92
Connections and Compatibilities			
Max. Recoil Power on Rifled Weapon (Eo), Joules	7000	7000	7000
Safety Class for LRF	Class 1	Class 1	Class 1
LRF, m	1200, ±1	1200, ±1	1200, ±1
Ballistic Calculation	Support	Support	Support

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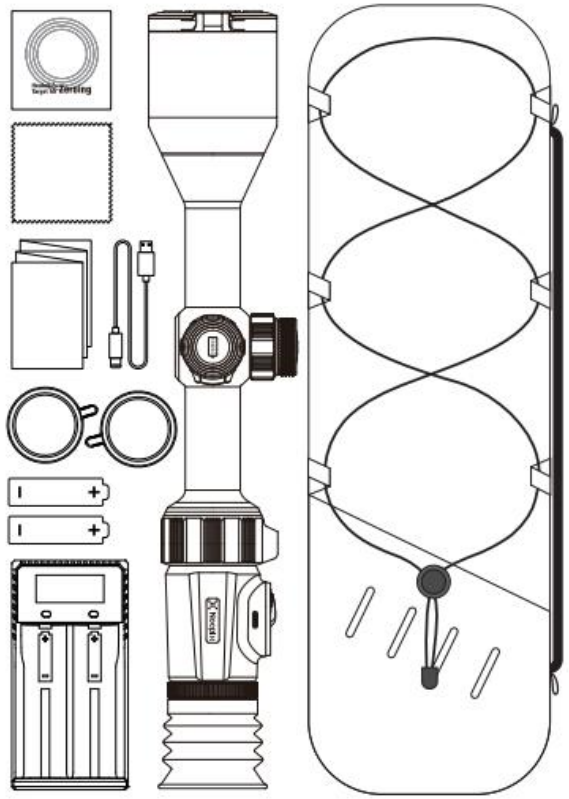
*The actual battery life depends on the use frequency of functions like LRF, Wi-Fi, video recording, etc.

- Improvements may be made to the design and software of this product to enhance its features without prior notice.
- The newest user manual can be downloaded at our official website: www.nocpix.com.

2 Package Contents

- ACE 2 Series Thermal Imaging Scope
- Heated target for zeroing
- Lens cloth
- Quick start guide
- Type-C cable
- 2*18650 battery
- 2*Focus knob rubber
- Battery charger
- Portable bag



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3 Description

ACE 2 series is an infrared scope for outdoor hunting. Designed based on infrared thermal imaging principles, it requires no external light sources during the day and at night, in all hard weather conditions (such as rain, snow, fog, and haze). It can be used without being affected by strong light and to observe even targets behind obstacles (such as branches, grass, and shrubs).

ACE 2 series has a variety of battery-powered solutions with long operating hours, and can be widely used for hunting, observation and positioning in low visibility conditions.

4 Features

- 12mK NETD
- Ocular zoom 2.0
- Integrated LRF
- Professional Ballistic Calculation
- Recoil Activated Video function
- Gallery function
- Dual power supply system
- Built-in memory, supporting photographing, video recording
- Built-in Wi-Fi module, supporting APP connection
- Built-in compass and motion sensor
- PIP (picture-in-picture) function
- Shut less function
- Pixel defect correction
- Tracking Function

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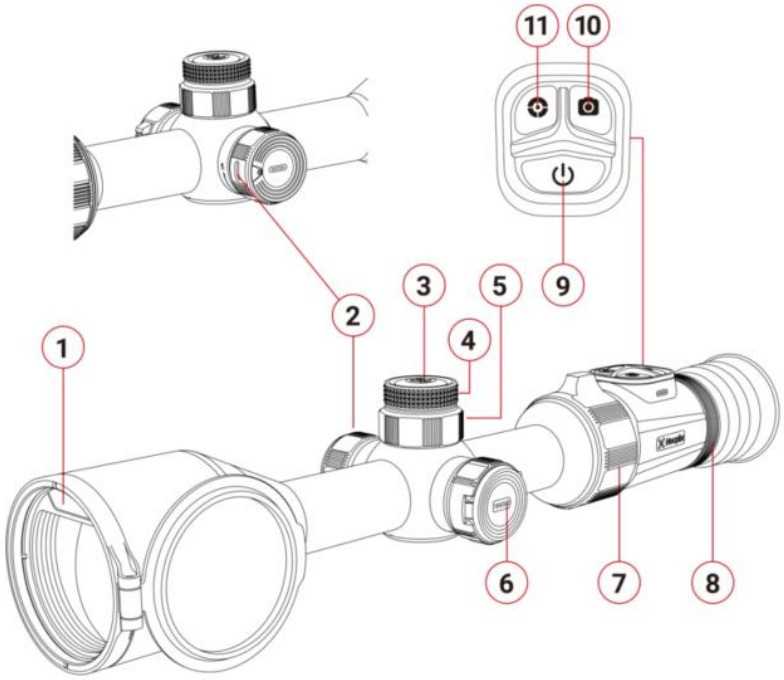
5 Components and Controls

1. LRF
2. Type C
3. Menu button
4. Rotate controller
5. Central turret focus
6. 18650 Battery cap
7. Ocular Zoom 2.0 knob
8. Eyepiece diopter adjustment ring
9. Power button
10. Photo button
11. LRF button



6 Button Operation

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Button	Current Status	Short Press	Long Press
Power Button	Powered off	——	Power on the device
	Home screen	Image calibration	On the Home screen, a 3-2-1 countdown prompt appears. ➢ If the Power button is released during the countdown, the device enters into Standby mode. ➢ When the countdown completes, the device will power off.
	Continuous ranging	Exit continuous ranging	
	Shortcut/Main menu interface	Return to home screen / Return to the previous interface without saving	
LRF Button	Home screen	Perform a single ranging	➢ When Continuous LRF is ON, press and hold the LRF Button to perform continuous ranging. ➢ When Continuous LRF is OFF, press and hold the LRF Button, and then release it to trigger a single ranging.
Photo Button	Home screen	Take a photo	Start video recording
	Video recording	Take a photo	Stop and save the video recording
Menu Button M	Home screen	Enter the Shortcut Menu interface	Enter the Main Menu interface
	Shortcut Menu interface	Adjust parameters	Save and back to the Home screen
	Main Menu interface	Adjust parameters / Enter the sub menu	

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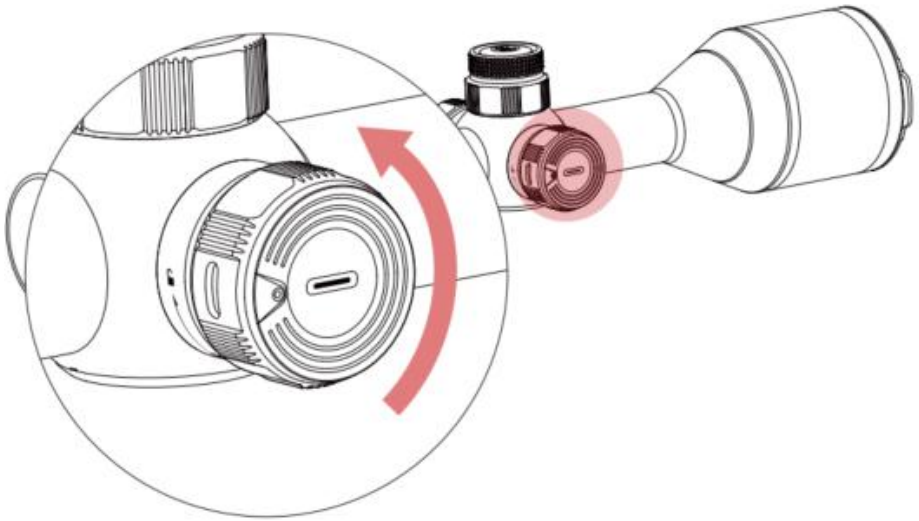
	Zero/ Pixel defect calibration interface	Switch the movement direction	
Controller	Home screen	PIP is ON: rotate, electronic zoom PIP image PIP is OFF: rotate, electronic zoom image	
	Shortcut menu interface	Rotate, switch the Shortcut menu options	
	Main menu interface	Rotate, switch the Main menu options	
	Zero/ Pixel defect calibration interface	Rotate, move the reticle position	

7 Power Supply

ACE 2 series uses a dual power supply system: a built-in rechargeable lithium-ion battery pack and a Replaceable 18650 battery, with dual battery power for up to 8 hours of normal operating time. The battery should be fully charged before the first use.



Charging the Built-in Battery

- Charge the built-in battery via the Type C interface.
- Rotate the cover to open or hide the type C interface

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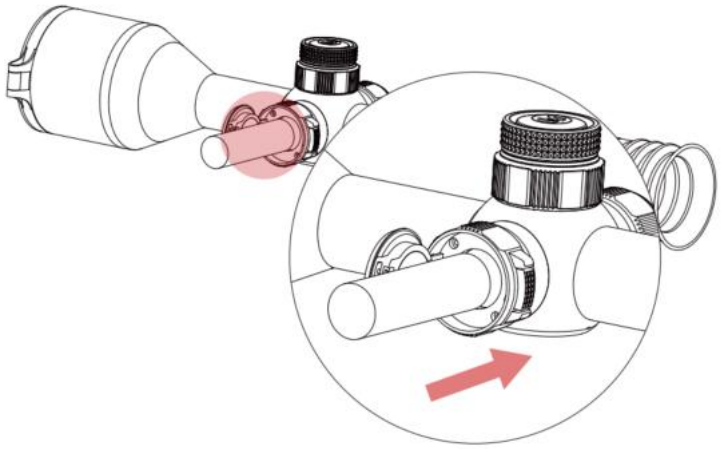
Installing the Replaceable18650 battery

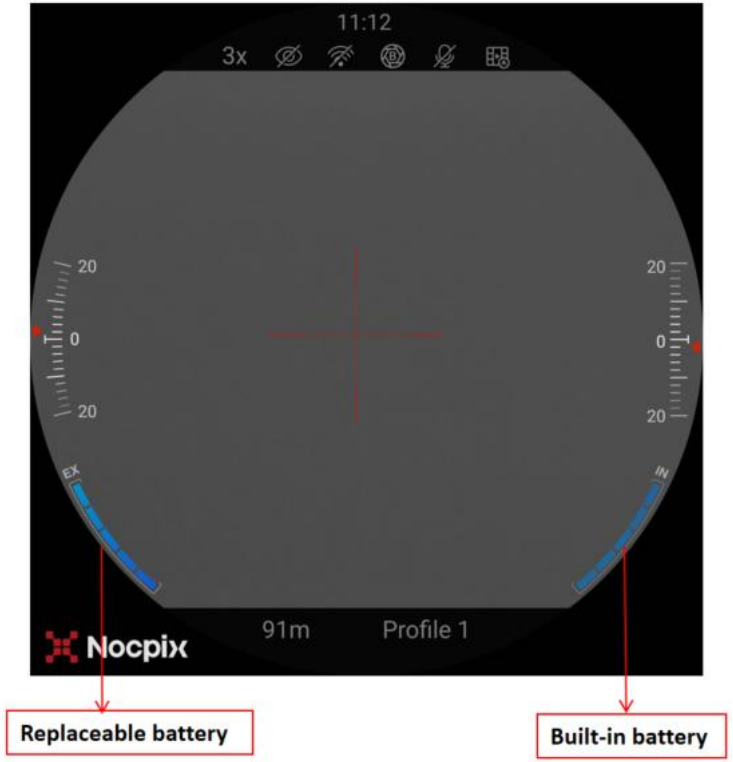
Note:

- When installing 18650 batteries, **there is no need to distinguish between the positive and negative poles**.
- The Replaceable18650 battery should be charged using a separate battery charger and cannot be charged via the ACE 2's Type C interface.



Switching between two types of batteries

- The left power icon displays the power level of the Replaceable 18650 battery.
- The right power icon displays the power level of the built-in battery.



Safety precautions

- When charging, please use the 5V2A power adapter compatible with the device. Using any other type of adapter

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may cause irreversible damage to the battery or the adapter itself.

- If the device is not used for a long time, the battery should be partially charged, not fully charged or discharged.
- Do not charge the device immediately after it is moved to a warm environment from a cold environment. Wait for 30 to 40 minutes for preheating.
- Do not use the charger if it is modified or damaged.
- The device should be charged at a temperature of 0°C to +40°C. Otherwise, the battery life will be significantly reduced.
- When charging, please do not leave the battery unattended.
- Do not connect the battery to the power supply for more than 24 hours after it is already fully charged.
- It is not recommended to connect third-party devices that consume more energy than the allowed value.
- The device is equipped with a short circuit protection system, but conditions that may lead to a short circuit should be avoided.
- Use the device at the recommended operating temperature from -20°C to +50°C. Do not use the device beyond this temperature range, or otherwise, the use may shorten the battery life.
- When the device is used under sub-zero temperature, the battery capacity drops. This is normal and does not indicate a defect.

8 Usage

Powering on and off

- Press and hold the **Power button** for 2s to start the device. Wait for 3s to complete the startup.
- Adjust the clarity of icons on the display by rotating the **eyepiece diopter adjustment ring**.

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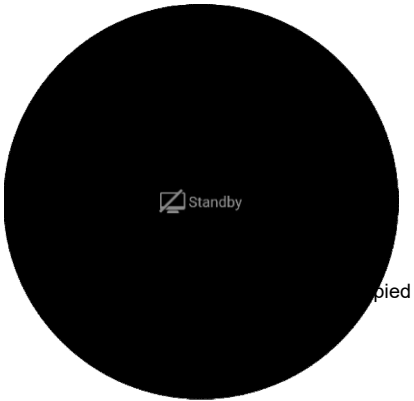
- Rotate the **Central Turret Focus** knob to focus on the object to be observed.
- On the Home screen, short press the **Menu button** to enter the shortcut menu.
- Long press the **Menu button** to enter main menu.
- On the Home screen, press the **Power button** for image calibration. When performing background calibration, please cover the lens cap.
- Please set the calibration mode in main menu.
- On the Home screen, press and hold the **Power button** to initiate a 3-2-1 countdown prompt. When the countdown completes, the device will power off.
- If the **Power button** is released during the countdown, the device will enter Standby mode, indicated by a standby icon.
- On the standby screen, either short press or long press the **Power button** will wake up the device.



9 Status Bar Icons

1.Current magnification

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2.Ultraclear mode status: (: The Ultraclear mode is off. : The Ultraclear mode is on.)

3.WIFI status (: Wi-Fi OFF. : Wi-Fi ON)

4.Image calibration status (: Auto Calibration. : Manual Calibration. : Background Calibration)

5.Time (Set it in the Main Menu or synchronize the time in the NOCPIX APP)

6.MIC status(: MIC is OFF. : MIC is ON)

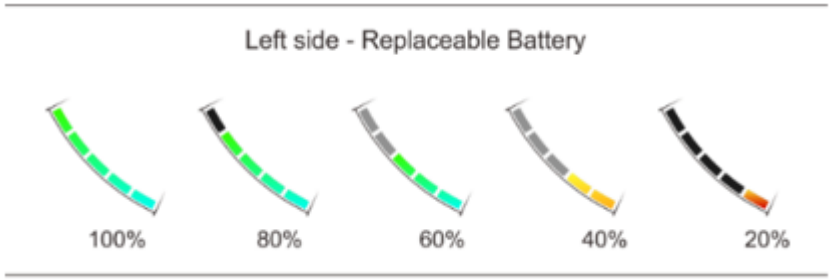
7.RAV status(: RAV is OFF. : RAV is ON)

8.Dual Clarity(S:Still. M:Motion) (Only for S60R)

9.Zeroing Distance

10.Current profile selected

11.Power status of the Replaceable battery (18650 battery)



12.Power status of the built-in battery pack

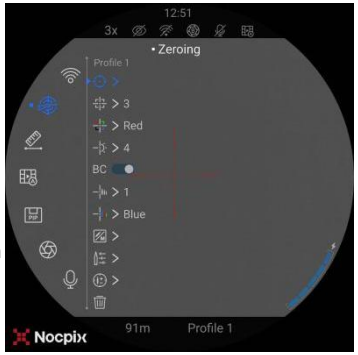
10 Reticle&Zeroing

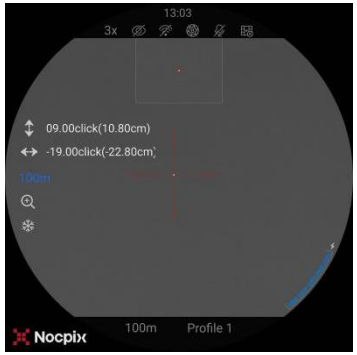
Enter the Reticle & Zeroing option.

Profile 1 is set as default. You can also add more profiles by tapping the plus sign, a maximum of 8 profiles can be created.

Zeroing

- Select the current profile, then short press the Menu button





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to enter the Zeroing interface.

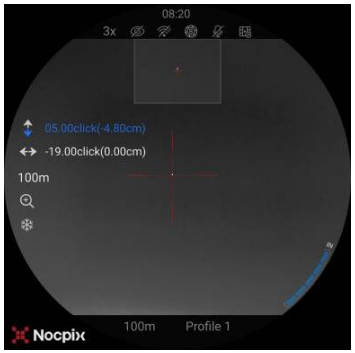
- Set a suitable target at the desired zero distance. Confirm that the rifle is empty, safe, and pointed in a safe direction, with no ammunition near the weapon.
- Based on the distance to the target you wish to zero, select or customize a zero distance to match.
- Ensure a stable platform and natural shooting position is achieved behind the rifle.
- Load ammunition, aim, and take one good shot at the target.
- Make your rifle safe and observe the location of impact on the target.
- If the point of impact does not match the point of aim (the center of the reticle), adjust the X/Y position of the reticle.
- In the sub menu for the selected zero distance, center the reticle on the aiming point and freeze the image view.

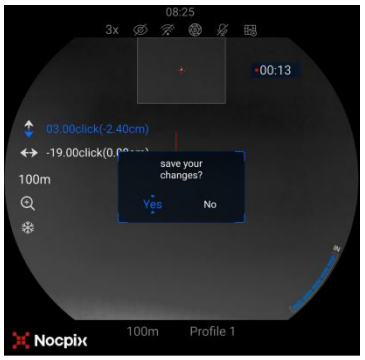
  a. Rotate the controller to select the Image Freeze icon.
  b. Short press the Menu button to freeze the image.

- Adjust the X/Y position of the reticle until the reticle matches the point of impact.

  a. Short press the **Menu** button to select X or Y direction. The selected axis will turn from white to blue.
  b. Rotate the controller to move the reticle positive.
  c. Upon moving the reticle, a red cursor appears on the screen, representing the original position of the reticle.
  d. Long press the **Menu** button to save the reticle position.

- Take a confirmation shot. The point of impact should now match the point of aim. If not, adjust the X/Y position of the reticle again.
- Click is the number of turns of the encoder, just like that used when zeroing a day scope.





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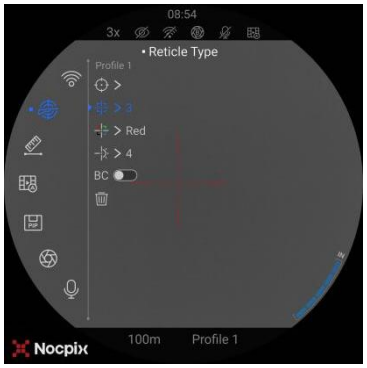
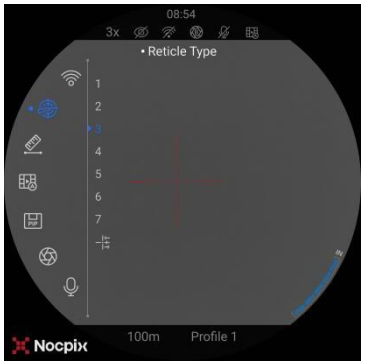
Reticle Type

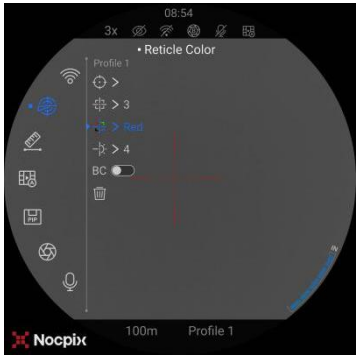
- Within the Reticle Type options, you can select 7 reticle types in total, from 1 to 7.
- You can also customize a new Reticle type through the NOCPIX APP.

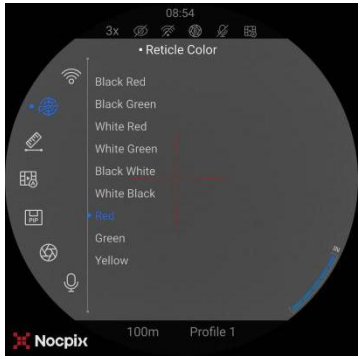




Reticle Color

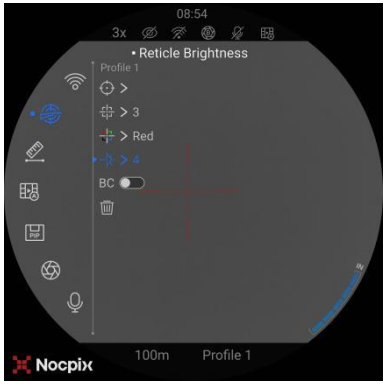
- Within the Reticle Color options, you can select 9 reticle colors.

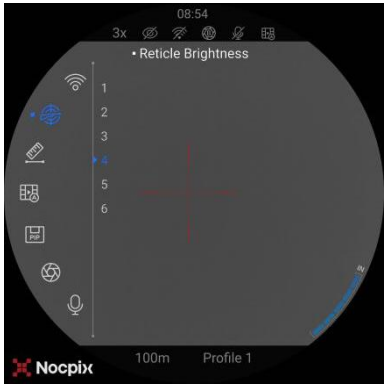




Reticle Brightness

- Within the Reticle Brightness options, you can select 6 types of Reticle Brightness.





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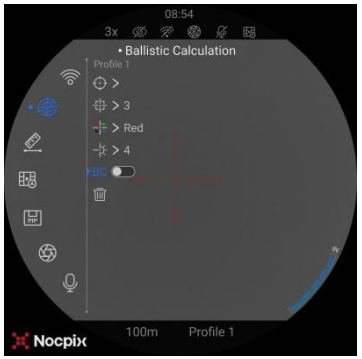
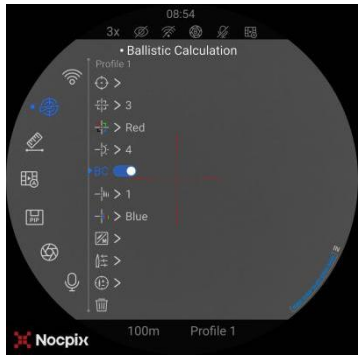
BC ON/OFF

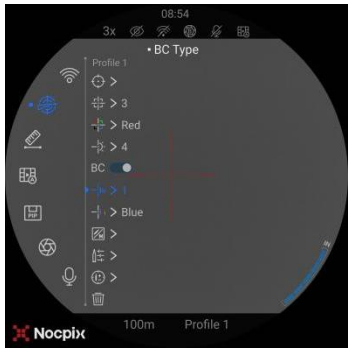
- Within the BC ON/OFF options, you can enable or disable the BC function;

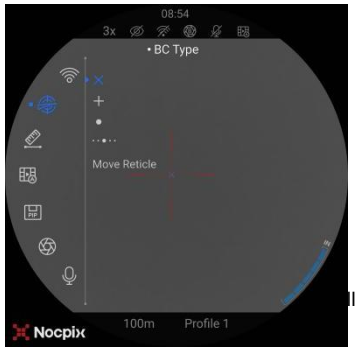




BC Type

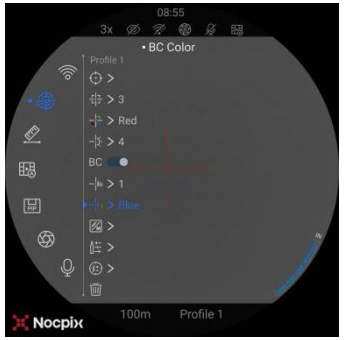
- Within the BC Type options, you can select 4 BC types.
- When SPOA is set to Move Reticle, the ACE 2 will automatically move the original reticle to the Suggested Point of Aim.

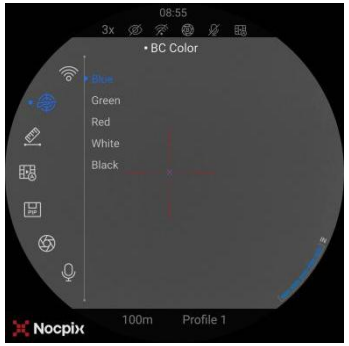




BC Color

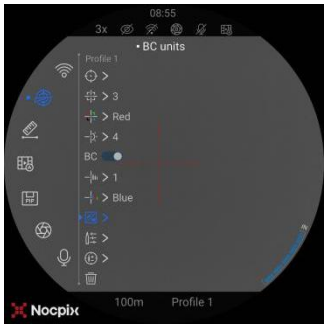
- Within the BC Color options, you can select 5 BC colors.

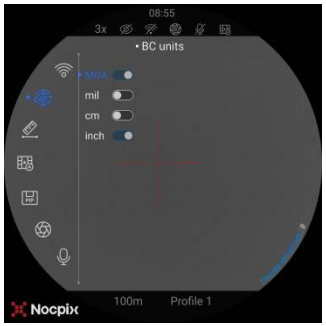




BC Units

- Within the BC Units options, you can set the BC units to MOA or mil, cm or inch.
- MOA and mil are mutually exclusive.
- Cm and inch are mutually exclusive.





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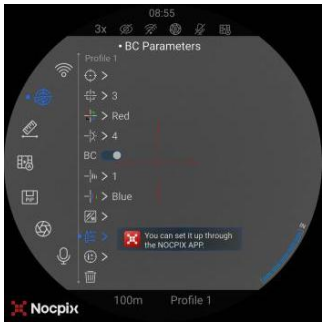
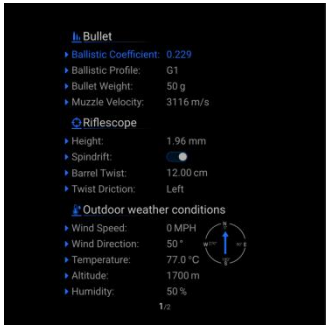
BC Parameter

- Within the BC Parameter options, you can set the bullet parameters to use.
- You can also set the BC Parameters within the NOCPIX APP.

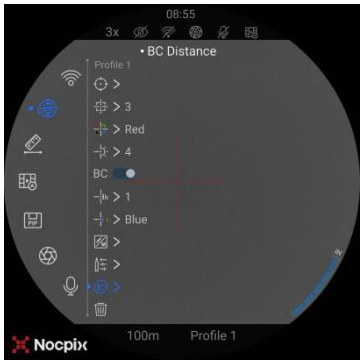


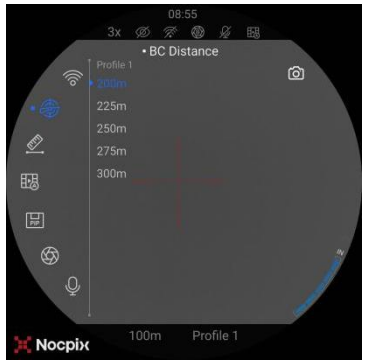


- Within the NOCPIX APP, you can also modify the name of profile for your distinction between different rifle and bullets, for example blaser .308Win.

BC Distance

- Within the BC Distance options, you can pre-set the BC distance.
- In extremely severe rainy and snowy weather conditions when the ranging performance is reduced, you can pre-set the BC distance within this option, and continue to use the BC function.
- The default distance options when delivery include 200m/225m/250m/275m/300m. Short press the Menu button to modify the distance value.
- The modified distance value will be synchronized to the Shortcut Menu options, and then you can quickly select and switch the distance values within the Shortcut Menu options





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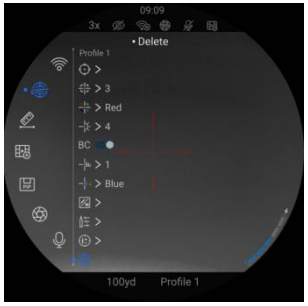
Delete

- Within the Delete options, you can delete current Profile.



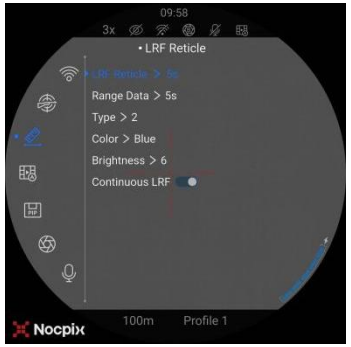
11 Laser Rangefinder

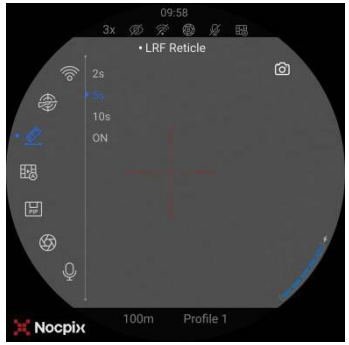
ACE 2 support 1200m laser rangefinder.

LRF Reticle

- Within the LRF Reticle options, you can set the display time of LRF Reticle.
- You can set the LRF Reticle to 2s/ 5s / 10s. After LRF is completed, the LRF Reticle will disappear automatically after 2 seconds, 5 seconds or 10 seconds respectively, and the hunter can focus more on aiming.

  If the LRF Reticle is set to ON, the LRF Reticle will remain displayed continuously.





Range Data

- Within the Range Data options, you can set the display time of Range Data.
- You can set the Range Data to 2s/ 5s / 10s. After LRF is completed, the Range Data will disappear automatically after 2 seconds, 5 seconds or 10 seconds respectively, and

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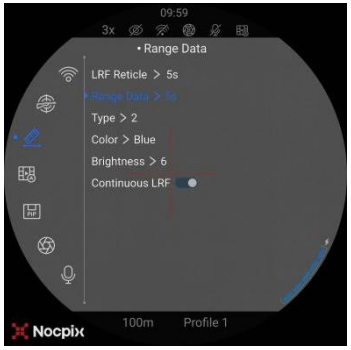
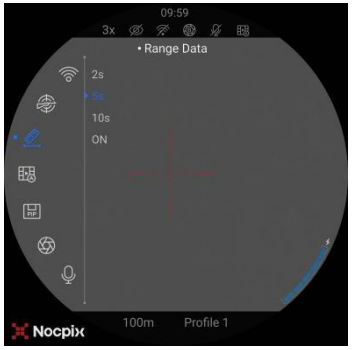
the hunter can focus more on aiming.

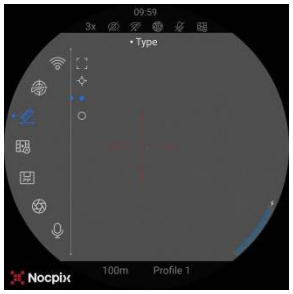
If the Range Data is set to ON, the Range Data will remain displayed continuously.

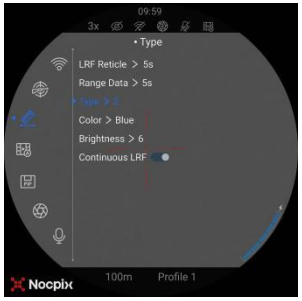




Type

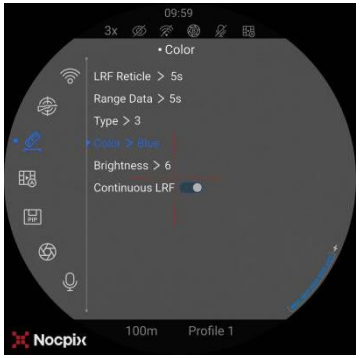
- Within the Type options, you can select 4 LRF Reticle types.

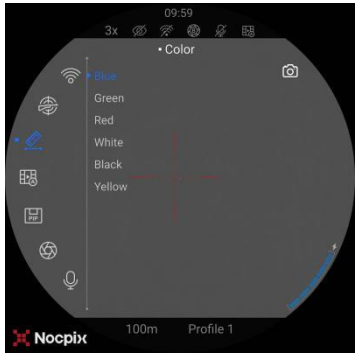




Color

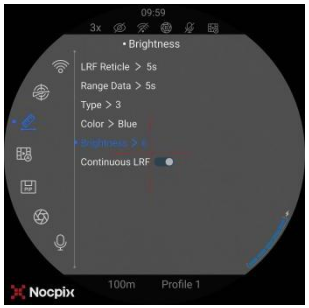
- Within the Color options, you can select 6 LRF Reticle colors.

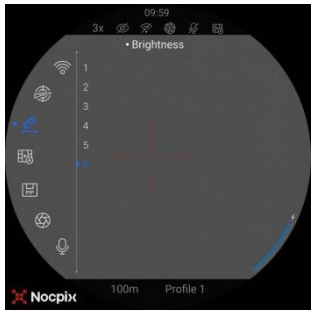




Brightness

- Within the Brightness options, you can select 6 types of LRF Reticle Brightness.





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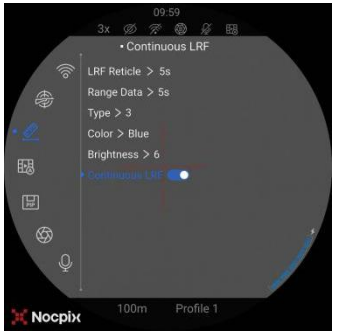
Continuous LRF

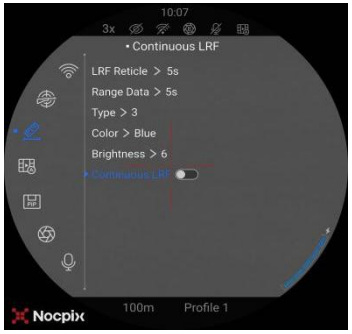
- When the Continuous LRF is set to ON, short press the LRF Button to perform a single ranging.

  Press and hold the LRF Button to perform continuous ranging.

- When the Continuous LRF is set to OFF, short press the LRF Button to perform a single ranging.

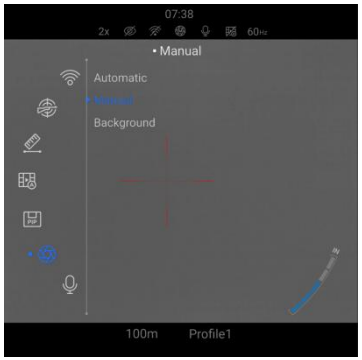
  Press and hold the LRF Button, and then release it to perform a single ranging.





12 Calibration

When the image is degraded or uneven, it can be improved by calibration. Calibration can equalize the background temperature of the detector and eliminate the image defects (such as vertical bars, phantom images, etc.).



There are three calibration modes: Auto Calibration (A), Manual Calibration (M) and Background Calibration (B).

- Select the required calibration mode in the Main Menu.
- **Auto Calibration (A):** Device will calibrate automatically according to the software algorithm. There is no need to close the lens cover (the internal shutter covers the sensor). Before automatic calibration, there will be a 5 second

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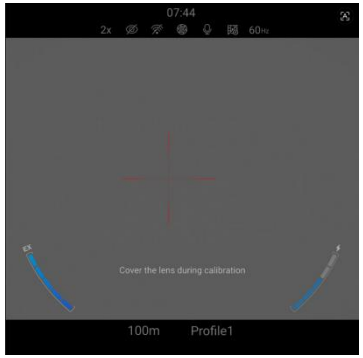
countdown prompt behind the shutter icon on the status bar, that can be used to cancel this calibration during countdown with a short press of the **Power button**. In this mode, user can also finish the calibration manually with a short press of the **Power button**.

- **Manual Calibration (M):** On the Home screen, press the **Power button** briefly for manual shutter calibration without closing the lens cover.
- **Background Calibration (B)**
  On the Home screen, press the **Power button**, then a prompt appears on the display as "cover lens during calibration". Cover the lens cap and background calibration will be done after 2s. After calibration, remove the lens cover.



13 Ocular Zoom 2.0

The ACE 2 series supports Ocular zoom 2.0, achieved by rotating the **Ocular zoom ring.**

- Users can set the Hybrid zoom switch.
  When Hybrid zoom is set to ON, rotating the ocular zoom ring activates ocular optical zoom and electronic zoom simultaneously.
  When Hybrid Zoom is set to OFF, rotating the ocular zoom ring can only enable ocular optical zoom.

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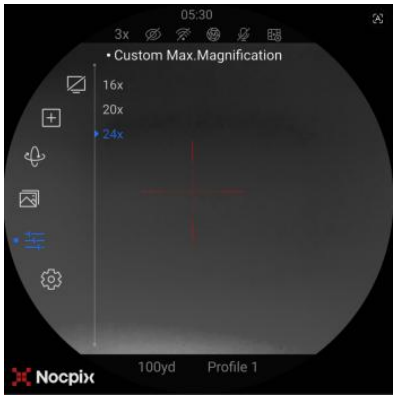
In addition, regardless of whether Hybrid Zoom is ON or OFF, electronic zoom can be adjusted by rotating the tower controller.

- You can also set different maximum magnification ratios for ACE 2.

  The max. magnification of ACE 2 H35R can be set to:12x/16x/20x.

  The max. magnification of ACE 2 H50R can be set to:16x/20x/24x.

  The max. magnification of ACE 2 S60R can be set to:20x/24x/28x.



14 Tracking Function

The ACE 2 Series comes with tracking function to help hunters rapidly find game after shooting.

Before using the Tracking function, you must first calibrate the compass of the ACE 2 Series. Navigate to Main Menu-Settings-Compass Calibration, and complete compass calibration following the prompts. After calibration, cross-check with the compass on your mobile phone to verify whether the ACE 2 compass is properly calibrated.

Tracking Operation Procedures:

14.1 Aim at the game target and complete a single LRF.

14.2 Connect the ACE 2 to the Nocpix APP, then tap the Tracking icon within the APP.

14.3 Enter the Tracking data list page. This list stores coordinate positions of game targets from the latest 10 times LRF. The newest coordinate data is displayed at the top, sorted chronologically by LRF time.

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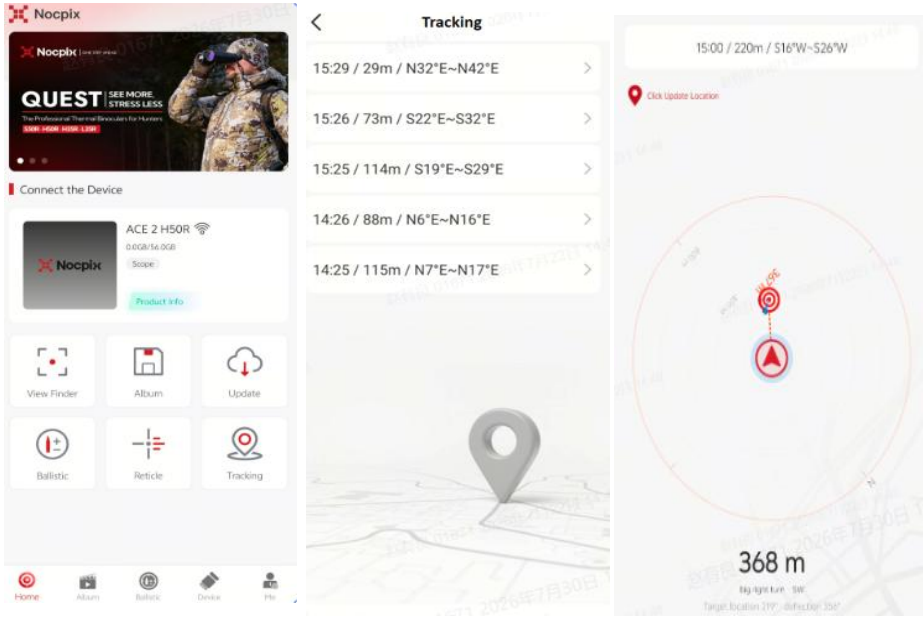
14.4 Select a set target data and enter the dedicated Tracking page for that quarry. This interface displays the real-time distance and bearing between the hunter and the game target. Locate the quarry by following the directional arrow on screen.



Note:The operation interface of Tracking may differ slightly across different software versions.

15 Photo and Video Recording

The ACE 2 series supports photo and video recording. Press the **Photo button** to take a picture, press and hold the **Photo button** to record a video.

Each time a photo is taken, the camera icon on the display will flash once.

Each time a video is recorded, a camcorder icon will appear on the display, along with the recording time.

When the device's memory space is less than 50MB, an exclamation mark icon will appear, indicating insufficient memory space. Please clear the memory space promptly.

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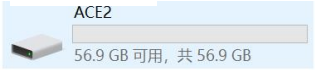
Memory access

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 USB cable.
- Power on the device.
- Double-click My Computer - Double-click to open the device named Nocpix - Double-click to open the device name  ACE2 56.9 GB 可用，共 56.9 GB ACE 2 to access the memory.
- There are different folders named by date in the format of xxxx (year) xx (month) xx (day) in the memory.
- Recorded photos and videos in that day are saved in the folders.
- Select desired files or folders to copy or delete..

16 Shortcut Menu

On the main menu screen, press the Menu button to enter the Shortcut Menu options.

On the Shortcut Menu, rotate the Controller to switch between different Shortcut Menu options, and press the Menu button to adjust the parameters of the Shortcut Menu.

If there is no operation for 7 seconds, the Shortcut Menu will exit automatically.

You can also exit the Shortcut Menu screen by pressing and holding the Menu button or pressing the Power button.

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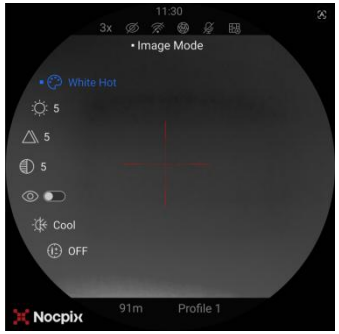
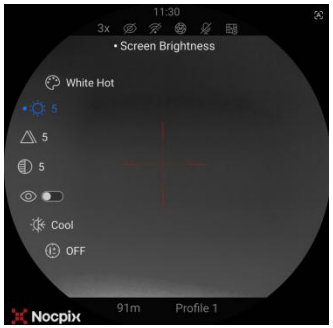
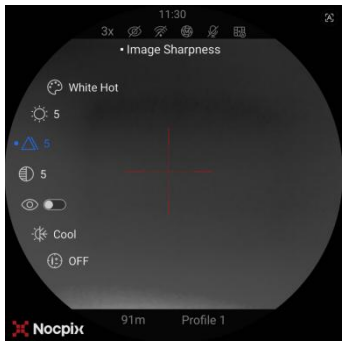
Image Mode	• Short press the Menu button to enter the shortcut Menu options; • Within the Image Mode options, short press the Menu button to switch between different color modes. • The color modes include: White Hot, Black Hot, Red Hot, Rainbow, Violet, Crimson, and Viridian.	
Screen Brightness	• Short press the Menu button to enter the shortcut Menu options; • Rotate the controller to switch to Screen Brightness options; • Within the Screen Brightness options, short press the Menu button to switch between different screen brightness levels. • Screen brightness has 10 levels to choose from, we recommend a screen brightness of 5.	
Image Sharpness	• Short press the Menu button to enter to the Image Sharpness options; • Rotate the controller to switch to Image Sharpness options • Within the Image Sharpness options, short press the Menu button to switch between different sharpness levels. • Image Sharpness has 10 levels to choose from, we recommend a sharpness level of 5.	

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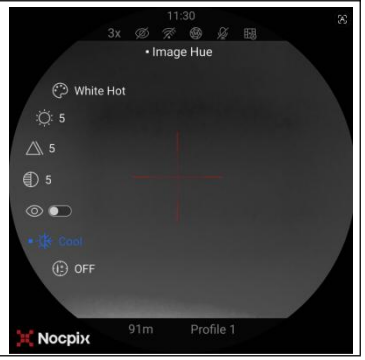
Image Contrast	• Short press the Menu button to enter to the Image Contrast options; • Rotate the controller to switch to Image Contrast options • Within the Image Contrast options, short press the Menu button to switch between different Image Contrast levels. • Image Contrast has 10 levels to choose from, we recommend a contrast level of 5.	
Ultra-Clear	• Short press the Menu button to set the Ultra-Clear as ON or OFF; • We recommend setting Ultra-Clear to OFF on sunny days, and to ON in rainy or snowy weather.	
Image-Hue	• Short press the Menu button to set the Image-Hue as Cool or Warm; • Cool mode delivers a cleaner image, while Warm mode is more comfortable for the eyes. You can set it according to your preference.	

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Dual Clarity	Only ACE 2 S60R comes with Dual Clarity function ● Short press the Menu button to set the Dual Clarity as Motion or Still; ● Motion mode delivers smoother footage, optimized for searching; ● Still mode provides superior image details, ideal for target identification and precision shooting.
Pre-set BC Distance	For ACE 2, as well as in extremely severe rainy and snowy weather conditions, when the ranging performance is reduced, you can Pre-set the BC distance within this option, and continue to use the BC function. ● Short press the Menu button to enter the shortcut menu options; ● Rotate the controller to switch to Pre-set BC Distance options; ● Within the Pre-set BC Distance options, short press the Menu button to switch between different BC distances. Default values include OFF/200m/225m/250m/275m/300m/+. ● When OFF is selected, the Pre-set BC Distance function is OFF. When 200m/225m/250m/275m/300m is selected, Ballistic Calculate will be performed according to the selected distance. The distance can be modified within Reticle&Zeroing – Profile – BC Distance. When "+" is selected, press and hold the Menu button to add a new BC Distance.

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17 Main Menu

Press and hold the **Menu** button to open the **Main Menu**;

Within the **Main Menu** options, rotate the controller to switch between different main menu options. Icons change from white to blue when a Main Menu option is selected.

Press the **Menu** button to adjust the parameter settings of the **Main Menu**;

If there is no operation for 7 seconds, the **Main Menu** will exit automatically. You can also exit the **Main Menu** screen by pressing and holding the **Menu** button or pressing the **Power** button.

Within the **Main Menu** options, you can perform the following settings:

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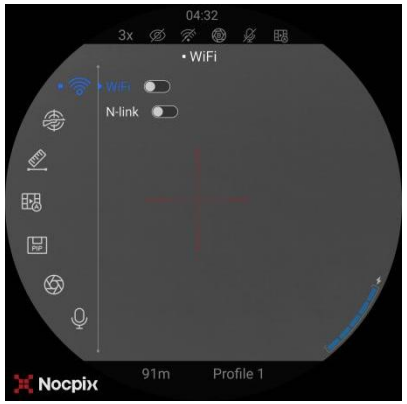
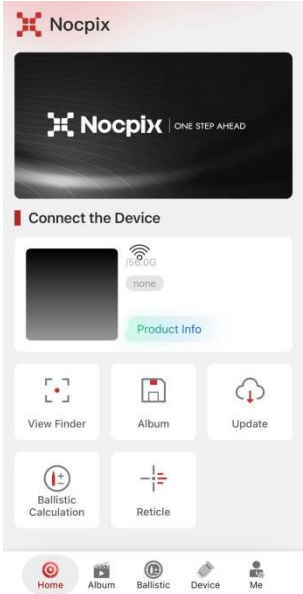
WIFI	● Press and hold the Controller to enter the Main Menu interface. ● Rotate the Controller to switch to the WIFI option, within the WIFI option, you can select the Wi-Fi or N-link option ● Select the WIFI option， press the Menu button to enable or disable WIFI.   After the Wi-Fi function is on, search for the Wi-Fi signal with the name "ACE 2 H50R_XXXXXXX" on the mobile device. Select the Wi-Fi and enter the password to connect. When Wi-Fi is successfully connected, it supports to control the scope via the NOCPIX APP downloaded in the mobile device. Setting Wi-Fi name and password . The name and password of the Wi-Fi in ACE 2 series can be reset on the Nocpix app. After the scope is connected to a mobile device, locate and click the ‘Settings’ icon on the Nocpix image screen to enter the WiFi setting interface. In the text box, enter and submit the new Wi-Fi name (SSID) and password. It needs to reboot the device to take the new name and password effect. **Note:** If the device is reset to the factory settings, the name and password of the Wi-Fi will also be restored to the default settings.

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	● Select the N-link option，press the Menu button to enable or disable N-link. When N-link is enabled, turn on the Wi-Fi of another NOCPIX device to realize real-time mutual transmission of ranging data, facilitating group collaborative hunting. ● N-link interface supports PIP View and Full View. PIP View: Transmitted image shows in picture-in-picture window; Full View: Transmitted image fills the entire screen;
Reticle&Zeroing 	● Press and hold the Controller to enter the Main Menu interface. ● Rotate the Controller to switch to the Reticle&Zeroing option. ● For detailed operating instructions, please refer to Chapter 10 **Reticle & Zeroing**.
Laser Rangefinder 	● Press and hold the Controller to enter the Main Menu interface. ● Rotate the Controller to switch to the Laser Rangefinder option. ● For detailed operating instructions, please refer to Chapter 11 **Laser Rangefinder**.

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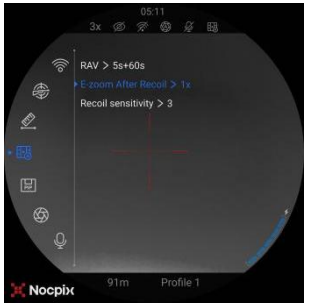
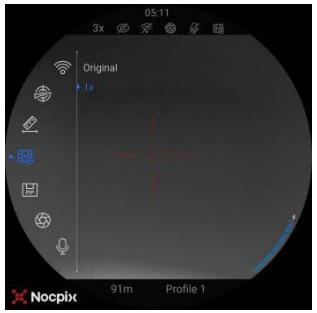
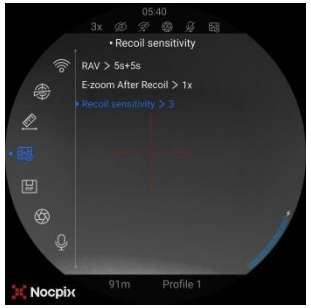
Recoil	• Press and hold the Controller to enter the Main Menu interface. • Rotate the Controller to switch to the Recoil option. • Within the Recoil options, you can set RAV to ON or OFF. When RAV is ON, video will be automatically generated after shooting. You can view the produced RAV video files within the Gallery. Pre-recoil refers to the video recording duration before firing, which can be set to 5s or 10s. Post-recoil refers to the video recording duration after firing, which can be set to 5s/10s/20s/30s/60s. • Within the Recoil options, you can set E-zoom After Recoil to different gears. When it is set to original, the current E-zoom magnification will remain unchanged after shooting. When set to 1x, it will automatically revert to 1x e-zoom after recoil impact.; • Within the Recoil options, you can set the Recoil sensitivity from 1 to 6. A smaller value is corresponding to a smaller bullet energy, which will make it easier to trigger RAV. A larger value is corresponding to a greater bullet energy, which will it more difficult to trigger RAV.







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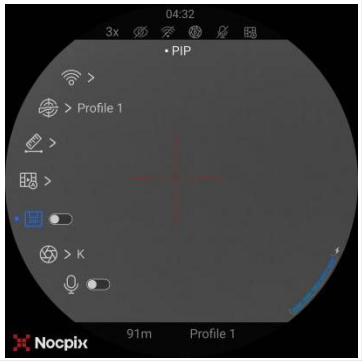
PIP	• Press and hold the Controller to enter the Main Menu interface. • Rotate the Controller to switch to the PIP option. • Within the PIP option, press the Menu button to enable or disable PIP. 
Calibration	• Press and hold the Controller to enter the Main Menu interface. • Rotate the Controller to switch to the Calibration option. • Within the Calibration option, you can select 3 calibration types, including: Auto Calibration (A) Manual Calibration (M) Background Calibration (B) • Please refer to the Calibration section for detailed guidance for zeroing.
Microphone	• Press and hold the Controller to enter the Main Menu interface. • Rotate the Controller to switch to the Microphone option. • Within the Microphone option, press the Menu button to enable or disable the Microphone function. • The Microphone icon is displayed on the status bar.

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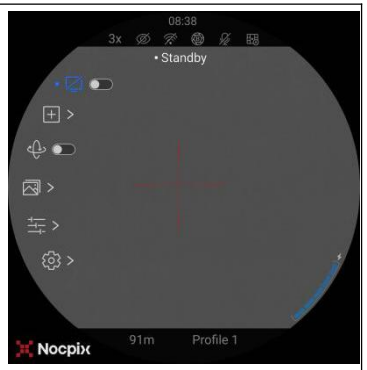
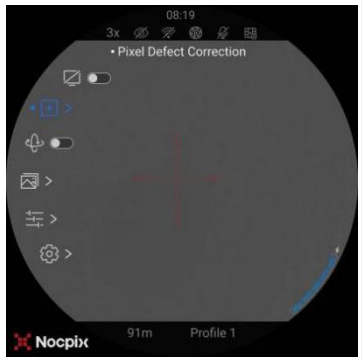
Standby	 ● Press and hold the Controller to enter the Main Menu interface. ● Rotate the Controller to switch to the Standby option. ● Within the Standby option, press the Menu button to enable or disable the standby function. ● When Standby is enabled, the device automatically enters Standby to save power when the vertical tilt angle exceeds 70° or the horizontal tilt angle exceeds 30°.
Pixel Defect Correction	When using the scope, you may see pixel defects, such as visible light spots or dark spots with stable brightness. To address this problem, use the Pixel Defect Correction function to remove the pixel defects.  ● Press the Controller to enter the Pixel Defect Correction interface. ● The PIP function is automatically turned on, and display on the top of the screen by default. The moving directions (X-axis and Y-axis) and the numbers of corrected pixels are shown on the left side of the screen. ● In the Pixel Defect Correction interface, the reticle is instead by a small cross cursor. ● Rotate the Controller to move along the direction selected, rotate it clockwise to move leftward or downward, and rotate anticlockwise to move rightward or upward. When the X or Y direction is selected, the icon will flash continuously. ● Press the Menu button to save moving data and select the ⊕ icon to add and correct it. The value of

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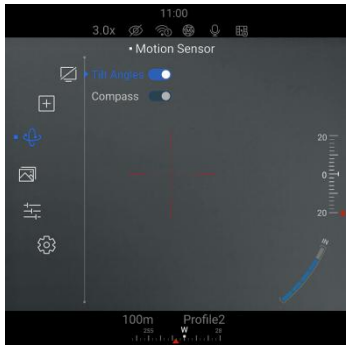
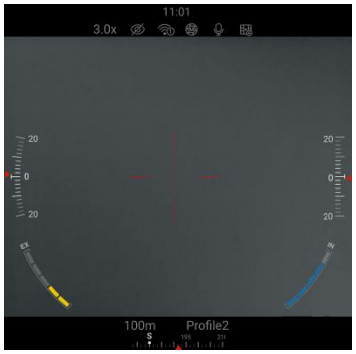
	will be changed from "0" to "1". At the same position, press the Menu button again to revoke the defect pixel correction and the value will be changed from "1" to "0". ● Rotate the Controller to select 'Yes' to save and exit, or select 'No' to cancel saving and exit. ● Press the Controller briefly to confirm the selection. You can also choose the automatic defective pixel calibration function by short press icon. ● Press and hold the Controller to enter the Main Menu interface. ● Rotate the Controller to select the Setting option. ● Press the Controller briefly to enter the submenu. ● This menu item allows you to configure the following settings. ● Press and hold the Controller to enter the Main Menu interface. ● Rotate the Controller to select the Setting option. ● Press the Controller briefly to enter the submenu. ● This menu item allows you to configure the following settings.
Motion Sensor	● Press and hold the Controller to enter the Main Menu interface. ● Rotate the Controller to switch to the Motion Sensor option. ● Within the Motion Sensor option, press the Menu button to enable or disable the Tilt angles or Compass.  

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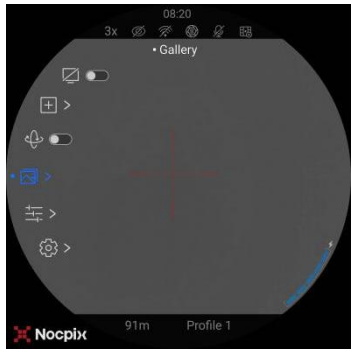
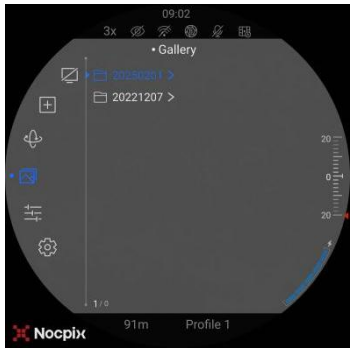
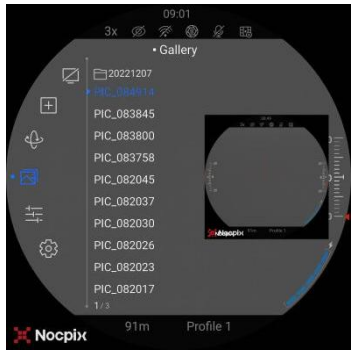
	● When the Tilt angles is turned on, the horizontal scale representing the tilt angle is displayed on the left side, the vertical scale representing the pitch angle is displayed on the right side. ● When the compass is turned on, the compass scales are displayed at the bottom of the screen.
Gallery	● Press and hold the Controller to enter the Main Menu interface. ● Rotate the Controller to switch to the Gallery option. ● Within the Gallery, video and photo files are arranged in folders by date. ● After entering a folder, select a video file, and press the M button to play the video file.   
Custom	● Press and hold the Controller to enter the Main Menu interface. ● Rotate the Controller to switch to the Custom option. ● Within the Custom option, you can set your preferred image modes, customize button functions, and configure the maximum magnification.. ● **Image mode** You can hide the unused Image modes. Hidden Image modes will not appear in the Image mode option in

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quick menu.

- **Custom Button**

You can customize the button functions according to your preferences. Configurable button functions include: LRF button, Photo button on ACE and the buttons on the remote control.

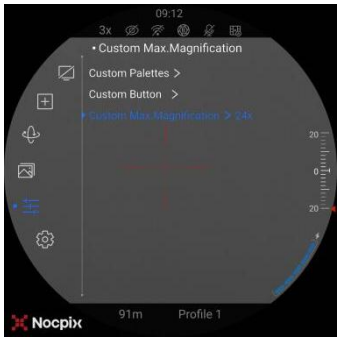
Users can also set the Hybrid zoom switch.

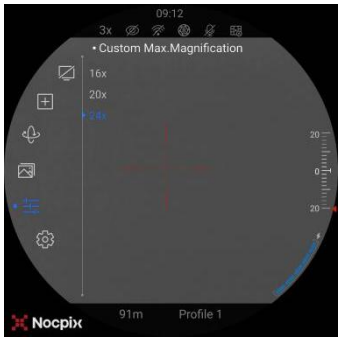
When Hybrid zoom is set to ON, rotating the ocular zoom ring activates ocular optical zoom and electronic zoom simultaneously.

When Hybrid Zoom is set to OFF, rotating the ocular zoom ring can only enable ocular optical zoom.

- **Custom Max. Magnification**

You can also set the max. magnification.





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Setting	Date	**Set system date** ● Within the Date option, short press the Menu button to switch the Year / Month / Day option; ● Rotate the controller to adjust the value of Year / Month / Day. ● After the adjustment is completed, press and hold the Menu button to save and exit Date option.
	Time	**Set system time** ● Within the Time option, short press the Menu button to switch the Hour / Minute option; ● Rotate the controller to adjust the value of Hour / Minute. ● After the adjustment is completed, press and hold the Menu button to save and exit Time option.
	Unit	**Set system unit** ● Within the Unit option, rotate the controller to switch the unit of Meter or Yard. ● Press Menu button to select Meter / Yard. ● After the adjustment is completed, press and hold the Menu button to save and exit Unit option.

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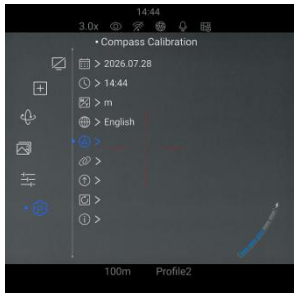
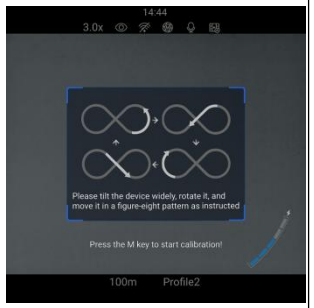
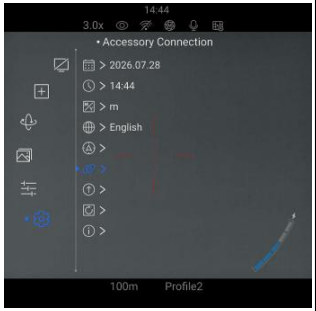
	Languages	**Set system languages** ● Within the Languages option, rotate the controller to switch different languages. ● Languages available for the ACE 2 series include English, German, Spanish, Italian, French, Swedish, Norwegian, Polish, Czech, Slovak, Hungarian, and Dutch. ● After the adjustment is completed, press and hold the Menu button to save and exit Languages option.
	Compass Calibration	**Compass Calibration** ● Within the Compass Calibration option, follow the on-screen prompts to complete calibration. After calibration finishes, press and hold the Menu button to save and exit.  
	Accessory Connection	**Accessory Connection** ● Within the Accessory Connection option, you can connect the remote control accessory. 

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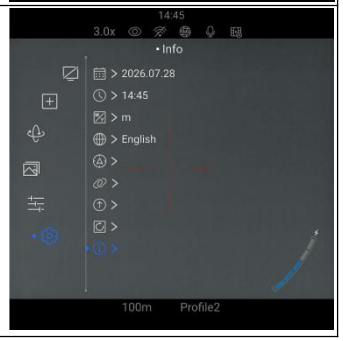
	Firmware Update	**Firmware Update** ● Within the Firmware Update option, ● you can use the manufacturer-provided specific file to update the system firmware. Of course, you can also upgrade the system through the NOCPIX APP online.	
	Factory Reset	**Factory reset** ● Within the Factory Reset option, you can use Menu button and Controller to set ACE 2 to factory default settings.	
	Info	**System information** ● Within in the Info option, you can press the Menu button to enter the Info interface to View the device information.	

18 FW Updates and APP

The ACE 2 series Thermal Imaging Scope allows you to transmit images to a smartphone or tablet via Wi-Fi in real time mode.

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Continuous improvements will be made to improve the user experience. The latest programs can be automatically detected and updated via the Nocpix APP.

Also, it is feasible to download and update from the official website: **www.nocpix.com**.

About Nocpix

- You can download and install the Nocpix APP on the official website (www.nocpix.com) or the app store. Alternatively, you can scan the QR code below to download it for free.Open the Nocpix APP after installation.
- If your device has been connected to a mobile device, please turn on the mobile data of the mobile device. After connection, an update prompt will be displayed automatically on the App.
- Nocpix automatically registers the last connected device. Therefore, once you have connected with Nocpix before, it will automatically detect the update even when the scope is not connected to the mobile device.
- If an update is available and the mobile device accesses the Internet, you can download the update first. Then when the device is connected with the mobile device, it will be updated automatically.
- After the update is installed, the device will restart automatically.

Download on the App Store

GET IT ON Google Play

19 Maintenance

The maintenance should be carried out at least twice a year and includes the following steps:

- Wipe the surface of metal and plastic parts to clear off dust

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and dirt by using a cotton cloth. Silicone grease may be used for the cleaning process.

- Clean the electric contacts and battery slots on the device using a non-greasy organic solvent.
- Check the glass surface of the eyepiece and lens. If necessary, clear off the dust and sand on the lens (it is perfect to use a non-contact method). Use a specialized wiping tool and solvent to clean the optical surfaces.

20 Troubleshooting

The following table lists all problems that are likely to occur during device operation. Check and address problems by referring to this table. If faults not included in this table occur or you cannot fix the fault, return the device to its vendor or supplier for troubleshooting.

Fault	Possible Causes	Solution
The scope cannot be started.	The battery is out of charge.	Charge the battery.
The device cannot be powered by using an external power supply.	The USB cable is damaged.	Replace the USB cable.
	The external power supply is insufficient.	If necessary, check the external power supply.
Images are unclear, vertical lines are present, or the background is not even.	Calibration is required.	Calibrate the images as instructed in this User Manual.
The image is too dark.	The screen is not bright enough.	Adjust the display brightness.
The icons are clear but the image is blurry.	The lens is not focused.	Rotate the lens focus ring to adjust the focus.
	The inner or outer optical surface of the lens is dusted or	Wipe the outer optical surface by using a soft cotton cloth or leave the scope to dry in a warm and dry environment for more

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	iced.	than 4 hours.
The scope cannot focus.	Wrong settings.	Set the scope according to the contents of section **Power-on and Settings** in this user manual. Check the outer surface of the objective lens and eyepiece, and if necessary, wipe off any dust and frost on it. In cold weather, a special antifogging coating can be applied (such as those used on eyeglasses or car review mirrors).
The device cannot connect to the mobile device.	The Wi-Fi password is incorrect.	Enter the correct password.
	Too many Wi-Fi networks around the device.	Move the device to an area with no or fewer Wi-Fi signals.
Wi-Fi signals are lost or interrupted.	The device is beyond Wi-Fi coverage. There is blocking (such as concrete walls) between the device and the receiver.	Move the device to a place where you can receive Wi-Fi signals.
The observed target disappears.	Observation through glass.	Observe the target directly without the presence of glass.
The image quality is poor or the detection range is shortened.	These problems are likely to occur when you use the device in harsh weather (such as snow, rain, and fog).	
When the device is used at a low temperature, the imaging quality is poorer than that at a normal temperature.	At temperatures above 0°C, the temperature rise varies with the observed objects (environment and background) due to different heat conductivity coefficients. As a result, high-temperature contrast occurs and the image quality is better. At low temperatures, the observed targets (background) usually cool down to a similar temperature because of reduced temperature contrast. Therefore, the image quality (details) is poor, which is a characteristic of thermal imaging devices.	

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21 Legal and Regulatory Information

Wireless transmitter module frequency range:

WLAN: 2.400-2.4835 GHz, 5.150-5.850 GHz

Wireless transmitter module power < 20 dB.

Bluetooth-enabled, the unit can connect to a remote control via Bluetooth.

We Inlumen Technologies Co., Ltd. hereby declares that the radio equipment types ACE 2 is in compliance with the Directives 2014/53/EU and 2011/65/EU

FCC Statement

FCC ID:2BHFB-ACE2-04

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 the user

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

EMC: Class A

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. 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

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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.