RICO 2
Thermal Imaging Scope

User Manual

RICO2 S75R / RICO2 H75R / RICO2 H50R / RICO2 L42R

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

- 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.recyclethis.info.

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

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**.

Removing the battery

The RICO2 Thermal Imaging Scope uses a 4400mah removable

battery pack.

1 Specifications

Model	RICO2 L42R	RICO2 H50R	RICO2 H75R	RICO2 S75R
Detector Specifications				
Type	Vox	Vox	Vox	Vox
Resolution, Pixels	384×288	640x512	640×512	1280×1024
Pixel Size, um	12µm	12µm	12µm	12µm
NETD, mK	≤ 18	≤ 15	≤ 15	≤ 15
Frame Rate, Hz	60	60	60	60
Optical Specifications				
Objective Lens, mm	42/F1.0	50/F1.0	75/F1.0	75/F1.0
Field of View (H×V), º	6.3x4.7	8.8×6.6	5.9×4.7	14.7×9.4
Linear Field of View (H×V), m @ 100m	11x8.2	15.4x11.5	10.3x8.2	25.8x16.4
Magnification, x	4~16	3~24	4~32	3~30
Eye Relief, mm	60	60	60	80
Exit Pupil Diameter, mm	23	23	23	23
Diopter, D	-5~+5	-5~+5	-5~+5	-5~+5
Detection Range, m(Target Size: 1.7m×0.5m, P(n)=99%)	2197	2597	3896	3896
Display Specifications				
Type	AMOLED	AMOLED	AMOLED	AMOLED
Resolution	2560×2560	2560×2560	2560×2560	2560×2560

Battery Power Supply				
Battery	4400mAh IBP-5 Li-ion Battery Packs			
Max. Operating Time (22ºC), h*	5.5	5.5	5.5	4.5
External Power Supply	5V (Type C)	5V (Type C)	5V (Type C)	5V (Type C)
Physical Specifications				
Wi-Fi / APP	Support	Support	Support	Support
Photo / Video Recorder	Support	Support	Support	Support
Recoil Activated Video	Support	Support	Support	Support
Gallery	Support	Support	Support	Support
Memory Capacity	32GB	32GB	32GB	32GB
IP Rating	IP67	IP67	IP67	IP67
Operating Temperature, ℃	-20 ~ +50	-20 ~ +50	-20 ~ +50	-20 ~ +50
Weight, g	900	926	1250	1300
Dimension, mm	296x78x76	296x78x76	336x116x90	342x116x93
Connections and Compatibilities				
Max. Recoil Power on Rifled Weapon (Eo), Joules	6000	6000	6000	6000
Compatible Mount	Picatinny	Picatinny	Picatinny	Picatinny
Connections and Compatibilities				
Safety Class for Laser Rangefinder	Class 1	Class 1	Class 1	Class 1
Measuring Range, m	1200, ±1	1200, ±1	1200, ±1	1200, ±1
Ballistic Calculation	Support	Support	Support	Support

✶ The actual battery life depends on the use frequency of functions like 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**

- RICO Series Thermal Imaging Scope

- Heated target for zeroing

- Lens cloth

- IBP-5 Battery 4400 mAh

- IBC-5 Battary Charger

- USB-C cable

- Magnetic Charging cable

- Quick start guide

- Mount for RICO 2

- M5 Screws

- 3mm Hex Key and Spanner Tool

- Portable bag/case(H75R&S75R)

3 Description

RICO 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).

RICO2 series was designed with an integrated 1200m capable rangefinder, a 60hz refresh rate and high sensitivity senser. and can be widely used for hunting, observation and positioning in low visibility conditions.

4 Features

- 15mK NETD (18mk for L42R)
- 1200m Built-in LRF
- Stepped digital zoom
- HD 2560x2560 AMOLED display
- High frame frequency:60hz
- Ballistic Calculation
- Recoil Activated Video function
- Built-in memory, supporting photographing, video recording
- Built-in Wi-Fi module, supporting APP connection
- PIP (picture-in-picture) function
- Pixel defect correction
- Convenient operation interface

5 Components and Controls(L42R/H50R)
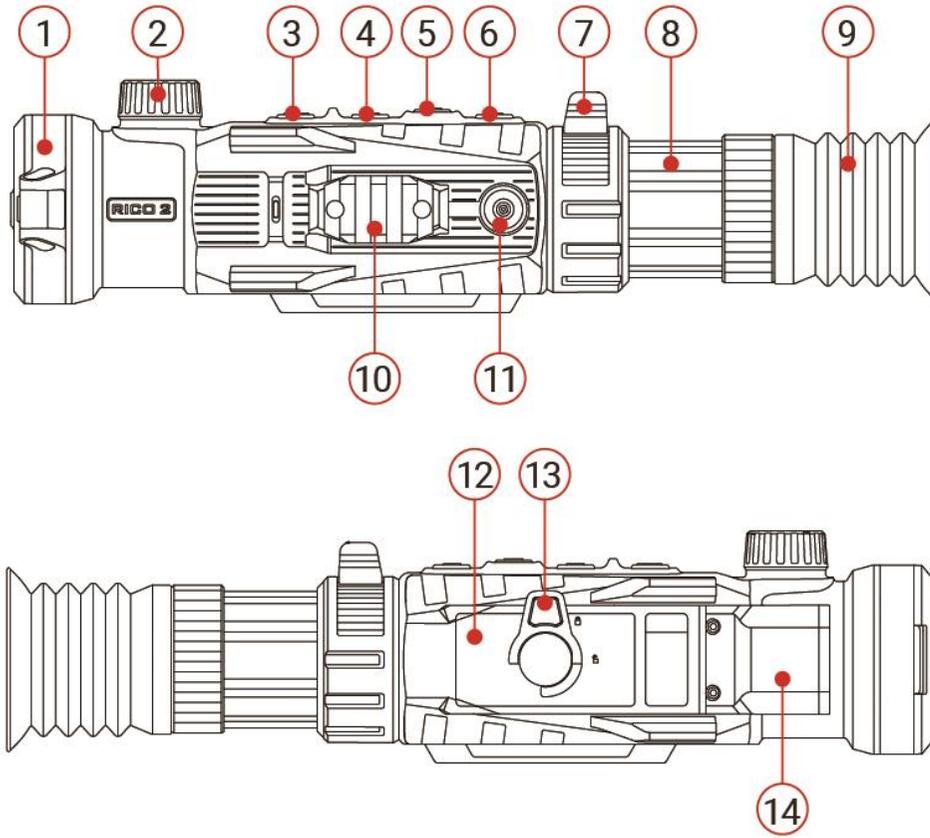
1. Objective Lens Cap

2. Objective Lens Focus Knob

3. Power Button

4. Up button/Rangefinding button

5. Menu button/M button

6. Down button/Capture button

7. Zoom Lever

8. Eyepiece/Diopter Adjustment Ring

9. Eyeguard

10. Accessory Rail

11.Magnetic Charging Port / USB-C Port

12. IBP-5 Battery Pack

13. Battery Pack Pull-Ring

14. Laser Rangefinding

6 Components and Controls(H75R/S75R)
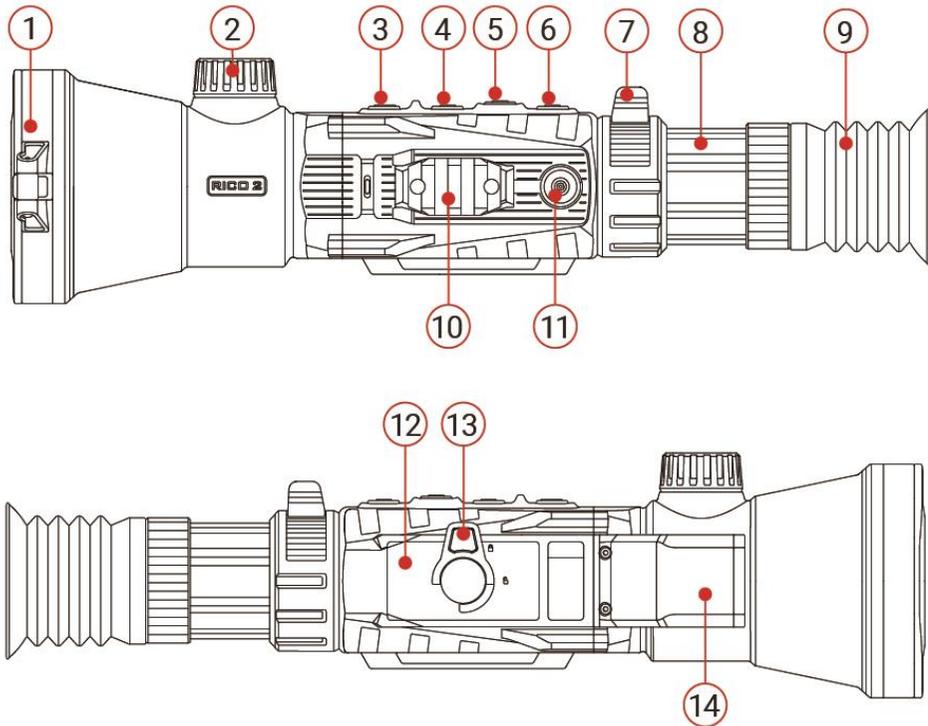
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13. Battery Pack Pull-Ring

14. Laser Rangefinding

7 Button Operation

Button	Current Status	Short Press	Long Press
Power Button ⏻	Powered off	——	Power on the device
	Home screen	stand by/wake up	Power off the device
	Main menu	Return to the previous menu without saving changes	/
	single or continuous rangefinding mode	Exit the rangefinding mode	Power off the device
	Defect pixel correction &reticle zeroing interfaces	Exit the interface withoutsaving	/
Up Button	Home screen	Enter single rangefindingmod	Enter continuous rangingmode
	Single rangefinding mode	Take a rangefindingmeasurement	Switch from single tocontinuous tocontinuous rangingmode
	Continuous rangefinding mode	/	Exit the rangefinding mode
	Main menu/quick menu	Move the cursor up	/
	Defect pixel correction &reticle zeroing interfaces	Move the cursor 1 pixel in thepositive direction	Move the cursor 10 pixels inthe positive direction
Menu Button	Home screen	Enter the quick menu	Enter the main menu

	Main menu	Change menu options, entersubmenu; or confirm submenlchanges and return	Enter the main menu
	Quick menu	Toggle through the menuoptions	Enter the main menu
	Defect pixel correction Interface	Select/ deselect axisof movement (X or Y)	Correct pixel(s) and return to previous
	Reticle zeroing interface	Select/ deselect axisof movement (X or Y)	Save the new reticle position
Down Button	Home screen	Take a photo	Start /stop video recording
	Main menu/Quick menu	Move the cursor down	/
	Defect pixel correction &reticle zeroing interfaces	Move the cursor 1 pixel in the negative direction	Move the cursor 10 pixel in the negative direction
Zoom Lever	Home screen	Adjust the digital zoom	
	In the screen brightness menu	Adjust the screen brightness	
Power Button + Up Button	Home screen	Enter the standby screen	/
Up button + Dwon Button	Home screen	Perform a shuttered non-uniformity correction(NUC)	/
Menu button + Down Button	Home screen	/	Active/deactivate reticle(Long press for 15seconds)

8 Power Supply
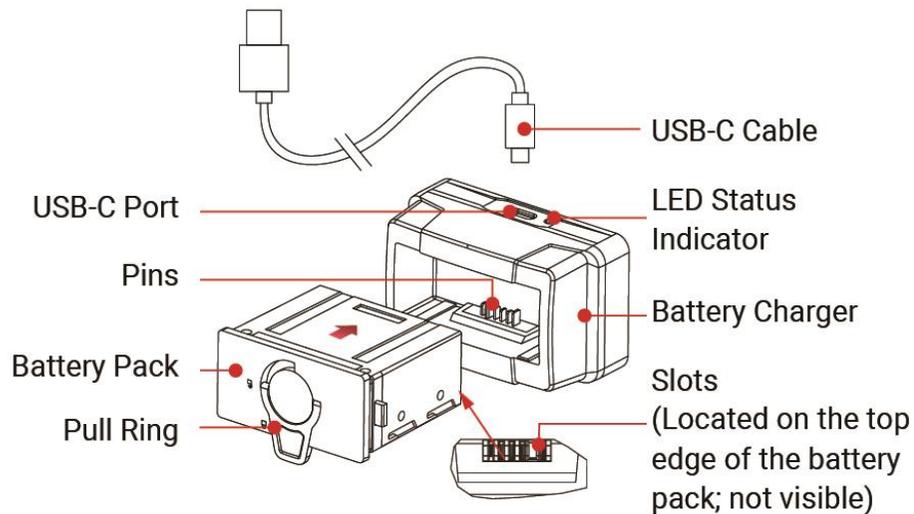
The RICO2 rifle scope comes with two long-lasting rechargeablelithium-ion IBP-5 battery packs, which allow for 5+ hours of operationeach. The IBP-5 battery packs use a cam-locking mechanism toensure quick and secure battery changes in the field. Fully chargethe battery packs before using the RICO2 for the first time.

Charging with the Battery Charger

1. Insert a battery pack into the battery charger. Align the slots on the edge of the battery pack with the pins on the inside of the charger.

2. Connect the USB-C cable to the USB-C port on the battery charger.

3. Connect the standard USB end of the data cable to:

    a. The included 5V-2A USB power adapter; OR

    b. Any standard USB 3.0 port on a laptop or computer.

4. During charging, the LED status indicator on the batterycharger will be solid red.

5. When fully charged, remove the battery pack from the battery charger.

    a. The LED status indicator will turn solid green when the battery is fully charged. Do not overcharge.

NOTE: When the LED status indicator flashes red, the battery charger is

connected to a power source but no battery pack is installed.

WARNING:Never use the battery charger with a USB power adapter that

is greater than 5V-2A.

Charging Via the Magnetic Charging Port

1. Place the magnetic charging cable on the magnetic port on the side

    of the rifle scope.

2. Connect the USB end of the magnetic charging cable to:

    a. The included 5V-2A USB power adapter; OR

    b. Any standard UsB 3.0 port on a laptop or computer; OR

    c. An external power supply, such as a USB power bank.

Charging via the USB-C Port

1. Remove the magnetic charging port and connect the USB-C cable

to the UsB-C port behind it..

2. Connect the standard USB end of the data cable to:

    a. The included 5V-2A USB power adapter; OR

    b. Any standard UsB 3.0 port on a laptop or computer; OR

    c. An external power supply, such as a USB power bank

3. During charging, the battery status icon in the status bar

    changes to the battery charging icon.

4. When fully charged, disconnect the charging cable.

NOTES:

You may charge and operate the RICO2 at the same time.The battery

status icon turns red when the battery is below 20%; charge right

away to avoid over-discharge and a reduction in battery capacity or

service life.

INSTALLING THE BATTERY PACK

Pull out the pull-ring on the battery pack and rotate it clockwise 90

degrees   until   it   is   horizontal   to   the   battery   pack.

Pins
(Located on the inside edge
of the battery compartment)

Slots

Battery Pack
Pull Ring
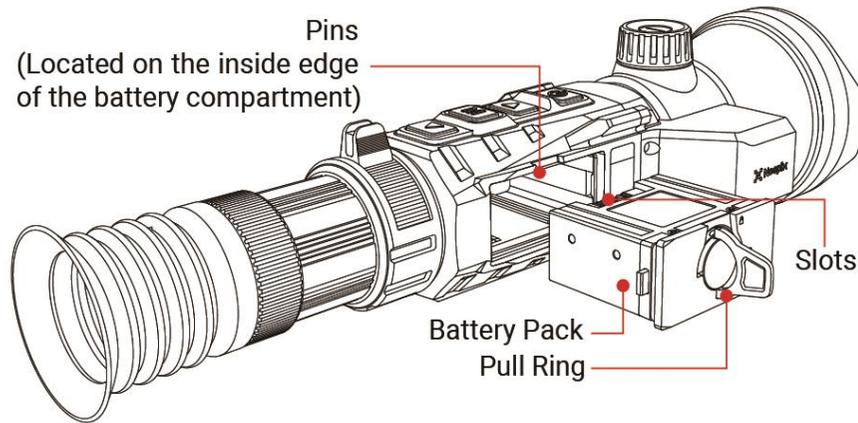
1. Position the battery pack with the slots facing up. Align the slots on the edge of the battery pack with the pins on the inside of the battery compartment.

2. Firmly press the battery in to install it.

3. Rotate the pull-ring counterclockwise 90 degrees to the vertical position to lock the battery pack in place.

4. WARNING: The Rico 2 can only be powered by afactory-supplied IBP-5 battery pack. Using any other battery packmay cause irreparable damage to the rifle scope or cause a fire.

Any damage from using an improper battery pack will not be covered by warranty.

REMOVING THE BATTERY PACK

To remove the battery pack from the RICO2:

1. Pull out the pull-ring on the battery pack and rotate it clockwise 90 degrees until it is horizontal to the battery pack2.

2. Pull the battery pack out.

BATTERY SAFETY WARNINGS

WARNING: Only use the battery charger supplied with the battery pack. The use ofany other charger may irreparably damage the battery pack or the charger and may cause a fire. Any damage fromusing an improper battery charger will not be covered by warranty.

WARNINGS:

Do not use a battery charger, power adapter, or USB cable that has been

modified or damaged.

Do not expose the battery to high temperatures or open flame.

and do not immerse it in water.

Do not leave the battery unattended while charging.

Do not leave the battery charging for long periods after fullcharge is reached, Charging time should not exceed 24 hours

Keep the battery pack out of the reach of children and pets.

The battery is equipped with short-circuit protection. However,any situation that may cause short-circuiting should be avoided

Do not disassemble, modify, hit, or drop the battery pack.

Do not connect the battery to any external device with an electrical current that exceeds permitted levels.

Do not connect an external device with a current supply that exceeds the 3.0 USB port.

To maintain optimal battery capacity and service life:

Avoid storing a fully charged or discharged battery for long periods,

Partial charging of the battery is necessary if the battery will be stored for an extended period.

Do not charge an extremely cold battery, Allow the battery to warm up for about 45 minutes before charging.

EXTERNAL POWER SUPPLY

The RICO2 supports the use ofa 5V external power supply, such as a mobile power bank. To connect to an external power supply:

1. Connect the UsB-C cable to the UsB-C port.

2. Connect the other end of the USB-C cable to the external powersupply.

3. The RICO 2 will switch to operation from the external power supply, and the internal battery pack will begin slowly charging

4. In the status bar, the battery status icon will change to the battery charging icon.

5. If the external power supply is disconnected, the RICO2 will automatically switch to the battery pack, if installed, without

powering off.

NOTE: Do not connect the RICO2 to an external device with a power supply that exceeds the 3.0 USB cable.

8 Usage

Installing the Mount(L42R/H50R)

Before using the RICO 2, install the dual throwmount to the three mounting holes in the base of the rifle scope.

Dual-throw Mount

M5 Mounting Holes
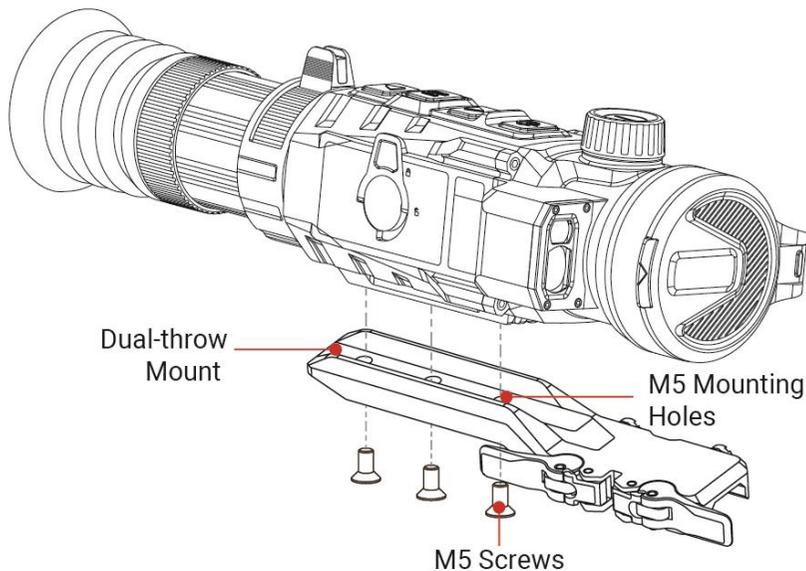
M5 Screws

1. Install the dual throw mount to the base of the RICO2 using a 3mm hex key and the M5 screws supplied in thepackage.

2. Install the RICO 2 to the rifle and adjust its position so that it produces a clear image and is comfortable for the shooter.

3. When the location is suitable, remove the M5 screws one at a time and apply a small amount of blue Locktite 242 to the threads.

4. Reinsert each screw and tighten to 20 in/lbs with a torque wrench. Allow the threadlocker to dry.

NOTE: Please note, torque is inch-pounds, NOT foot-pounds. If you do not have a torque wrench, apply until snug. Do not overtighten.

1. When the threadlocker is dry, install the mount and rifle scope to the Picatinny rail of your rifle.

1. Press the locking button and pull the locking lever to open each throw lever.

2. Install the mount to the Picatinny rail

3. Press the levers closed to lock the mount in place. You will hear the lever and locking button click.

Locking Button
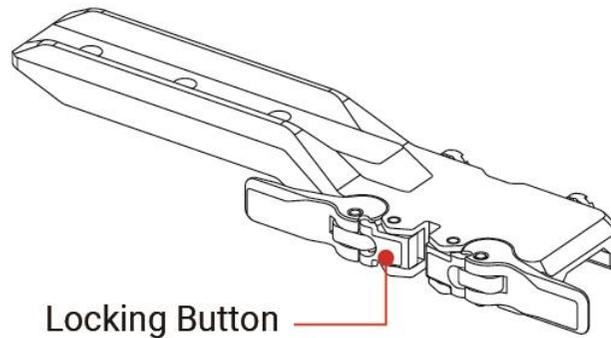
Adjusting the Throw Lever Tension（L42R/H50R）

If you cannot slide the mount onto the Picatinny rail because the throw levers are in the open position but the locking plate is not, or if the mount is not tight to the rail after the throw levers are closed, you may loosen or tighten the tension of the throw levers by adjusting the nuts.

1. Open both throw levers. This will cause the adjustment nuts to protrude on the opposite side of the mount.

2. Use the prong-side of the included spanner tool to turn the adjustment nut clockwise to tighten, or counterclockwise to loosen, to achieve the correct amount of tension. You should not feel any

tension on the locking lever when closing until it reaches a 45-degree angle. Do not overtighten.

Nut
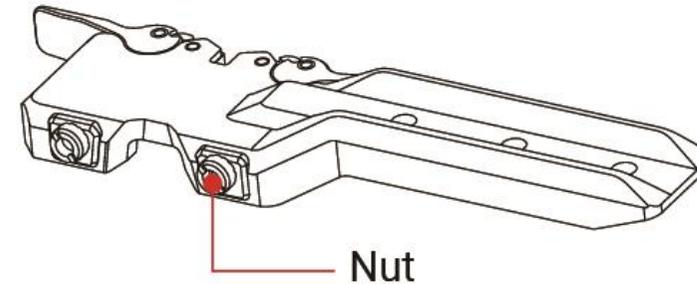
Installing the Shock Reduction Picatinny Mount(H75R/S75R)

Before using the RICO 2 H75R & S75R, you will need to install the Shock Reduction Picatinny Mount to the three mounting holes in the base of the RICO2.

M5 Mounting Holes

Dual-throw Mount

M5 Screws

Throw Lever
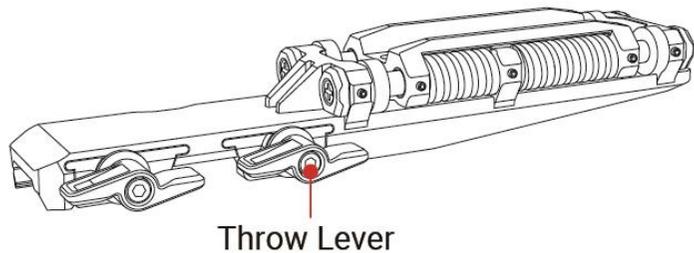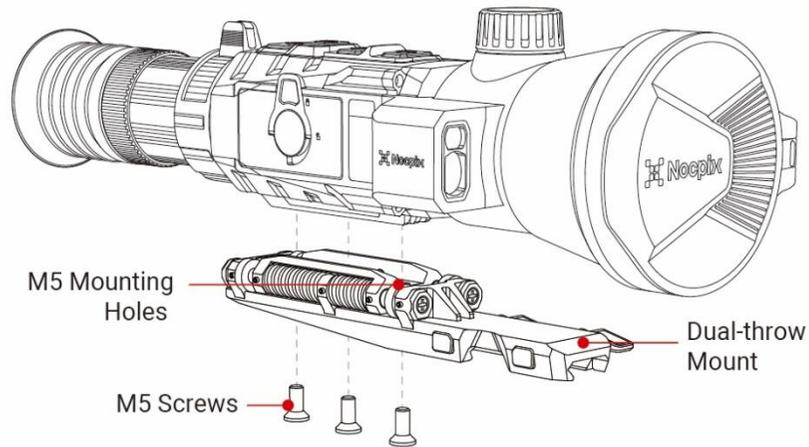
1. Install the Picatinny mount to the base of the RICO 2 using a 3mm hex key and the M5 screws supplied in the package.

2. Install the RICO2 to the rifle so that it produces a clear image and is comfortable to the shooter.

4. When the location is suitable, remove the RICO2 from the rifle, remove the M5 screws, and apply a small amount of blue Locktite 242 to the threads of the screws.

5. Reinsert the screws and tighten them to 20 in/lbs.

NOTE: Please note, torque is inch pounds, NOT foot pounds. If you do not have a torque wrench, apply until snug. Do not overtighten.

Adjusting the Mount Tension (H75R/S75R)

Tighten the wing-nuts on the side of the mount with your fingers:

Turn the wing-nuts clockwise until snug, then tighten another .

Powering on

1. Open the objective lens cap.

2. Long press the Power Button for 3 seconds to turn on the rifle scope. The Nocpix logo will appear.

3. To determine the current battery charge, check the battery status

▭ icon and battery charge percentage in the top status bar.

Powering Off

To power off the RICO2:

1. Long press the PowerButton. The shutdown screen will open, showing a 3-second countdown.

2. The RICO2 will shut down automatically when the 3-second countdown completes.

NOTE: Press any button before the countdown completes to cancel the shutdown and return to the home screen.

WARNING: If using an external power supply, do not remove the power supply when saving data, as the data may not be saved.

STANDBY MODE

Manually Enter Standby Mode

1. To enter standby at any time from the home screen, long pressthe Power and Up Buttons at the same time.

2. Short press any button to exit standby.

Set the RICO2 to Enter Standby Mode Automatically

The rifle scope may be set to automatically enter standby mode.

1. In the main menu, turn automatic standby on. When turned on.the RICO 2 will automatically enter standby after 5 seconds ofinactivity. See Main Menu > Standby

2. Press any button or move the rifle scope to exit standby

STANDBY NOTES:

When automatic standby is turned on:

The RICO2 will enter standby mode automatically when it is tilted up or down at an angle of more than 70° or left or right at an angle of more than 30.

The RICO2 will not enter standby mode while it is in a level (horizontal) firing position.

When off is selected, standby mode is turned off and the riflescope will operate until the battery runs out.

Adjusting the Focus

ADJUSTING THE DIOPTER/EYEPIECE

1. Rotate the eyepiece diopter adjustment ring at the rear of the rifle scope right or left until the user interface is clear.

2. Look closely to ensure all icons, the status bar, and the reticle appear sharp and in focus. No additional diopter adjustments are required unless the user wishes to make changes.

NOTES:

After the initial adiustment, there is no need to rotate the eyepiece adjustment ring for long distances or other conditions.

If necessary during standard use, the objective lens focus knob may be rotated to adjust fine focus on the target object being observed.See Focusing the Objective Lens below.

FOCUSING THE OBJECTIVE LENS

To adjust the focus on the target object:

1. Rotate the objective lens focus knob left or right to adjust fine focus.

NOTE: Re-adjusting the focus will be necessary if the distance to the target changes.

9 Status Bar Overvies

The status bars at the top and bottom of the screen show information on the operating status of the RICO2.

1. Photo: The camera icon appears briefly when a photo is taken. A warning icon appears when insufficient memory storage is available.

2. Recoil Activated Video: The recoil activated video (RAV)icon will appear when RAV is turned on.

3. Video Timer: The video timer will appear during video recording.

4. Time: Shows the current time in 24-hour format.

5. Battery Status: Shows the battery status.

6. Battery Charge: Shows the current battery charge level.

7. Zeroing Profile and Distance: Shows the selected zero profile,A, B, C, D, E, or F, and the zero distance.

8. Magnification: Shows the total magnification.

9. Ultra-Clear: Shows the Ultra-Clear status, on or off

10. Non-Uniformity Correction (NUC) Mode: Shows the icon for the selected non-uniformity correction (NUC) mode,automatic or manual When automatic mode is selecteda countdown timer icon will appear when 5 seconds remain until a NUC.

11. Wi-Fi: Shows the Wi-Fi status, on or off.

12. Standby Status: Shows the standby icon and the status, on or off.

13. Microphone: When on, the microphone icon appears.

10 Zeroing

RICO 2 features a "freeze" zeroing method. To zero the RlCO2:

1. Set a suitable target at the desired zero distance.

2. Confirm that the rifle is empty, safe, and pointed in a safe direction, with no ammunition near the weapon.

3. Enter the "Zeroing Profile" menu, set the zeroing profile to A, B, C, D, E, or F in "Reticle" option.

4. Based on the distance to the target you wish to zero, selector customize a zero distance to match.

5. Ensure a stable platform and natural shooting position isachieved

behind the rifle.

6. Load ammunition, aim, and take one good shot at the target.

7. Make your rifle safe and observe the location ofimpact on thetarget.

8. If the point ofimpact does not match the point of aim (the centerof the reticle), adjust the X/Y position of the reticle.

9. In the submenu for the selected zero distance, center the reticleon the aiming point and freeze the image view.

    a. Short press the DownButton to move to the imagefreeze icon. The cursor position is indicated by a blue arrow > icon.

    b. Short press the Menu Button to freeze the image. The icon will turn from white to blue.

10. Select the axis (X or Y) along which to move the reticle.

    a. Short press the Up or Down Button to move between X and Y.The cursor position is indicated by a bluearrow > icon.

    b. Short press the Menu Button to select X or Y. The selected axis will turn from white to blue.

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

    a. Use the Up Button to move in the positive direction:X= Right and Y=Up.

    b. Use the Down Button to move in the negative direction:X= Left and Y= Down.Upon moving the reticle, a red cursor appears on the screen,representing the original position of the reticle.

12. Long press the Menu Button to save the reticle position.

13. 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.

11 Rangefinder and Ballistic Calculation

RICO2 support 1200m laser rangefinder and ballistic calculation functions.

CAUTION: Do not stare directly into the laser.The rangefinder interface

has the following features:

Cursor: The blue rangefinder cursor ⟨cursor icon⟩ appears in the center of the screen.

2 Mode: Shows the selected rangefinding mode, CONT(continuous) or SGL (single).

Rangefinding Measurement: Shows the target distance.To use continuous rangefinder mode:

1. Short press the Up Button to turn on the laser rangefinder and enter single rangefinding mode.

2. Locate the target.

3. The distance to the target indicated by the cursor will be refreshed automatically by the rangefinder every second

4. Short press the PowerButton to exit the laser rangefinder.

To use single rangefinder mode:

1. Long press the Up Button to turn on the laser rangefinder and enter single rangefinding mode.

2. Locate the target.

3. Short press the Up Button to take a rangefinding measurement.

4. Long press the Up Button to switch from single tocontinuous rangefinding.

5. Short press the PowerButton to exit the laser rangefinder.

NOTE: The rangefinder interface times out after 15 seconds in single-measurement mode.

 ACCURACY NOTES:

The measurement accuracy and maximum range depend on the reflection ratio on the target surface, the angle at which the laser beam falls on the target surface, and environmental conditions.

Reflectivity depends on the surface texture, color, size, and shape of the object. Typically, a glossy, bright surface will have higher reflectivity than a darker surface.

Ranging performance can degrade in bright conditions or when ranging towards the sun.

The measurement accuracy can be affected by fog, smog, heavy rain, snow, and other weather conditions. It can also be affected by a low battery or a dirty or smudged objective lens.

Measuring the range to a small target is more difficult than measuring the range to a large target.

Ballistic calculation

- Press and hold the Menu button to enter the Main Menu. Select the Ballistic Calculation option. Within the Ballistic Calculation option, you can set the Ballistic Calculation feature to ON or OFF.

- Within the Profile option, select the bullet profile from 1 to 5. You can also customize the bullet name
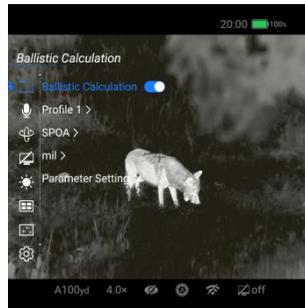
through the NOCPIX APP.

- Set the unit to MOA or mil.

- Within the SPOA option, you can sequentially set the Suggested Point of Aim to " **×** ", " **+** ", " **⁎** ", " **.....** "; When SPOA is set to Move Reticle, the RICO2 will automatically move the original reticle to the Suggested Point of Aim.

- Within the **Parameter Setting** option, you can set parameters for bullets, rifles, and the
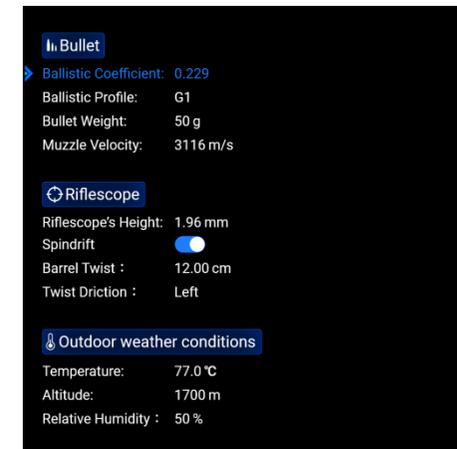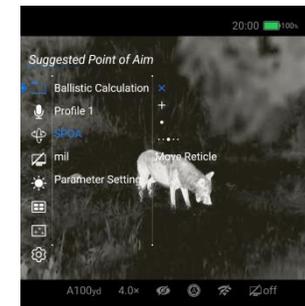
environment. Parameter settings can also be adjusted through the

NOCPIX APP.

- Once the settings are
  completed and the Ballistic
  Calculation is ON, a single
  ranging will prompt the
  recommended point of impact.

12 Calibrition

The user may perform a shutterless NUC based on the quality of the

observed image.A shutterless NUC uses less power than a shuttered

NUC because it does not use the imager shutter to cover the sensor;

instead, the user must close the lens cap.

A shutterless NUC may be performed in manual or automatic mode:

1. Close the objective lens cap.

2. From the home screen, short press the Up and Down Buttons at the
    same time.

3. A prompt to close the lens cap appears onscreen. Theshutterless
    NUC starts after about 2 seconds.

NOTE: If the lens is not properly covered, a temporary　"image burn" will

remain in the image until the next non-uniformity correction. This"image

burn" is temporary and is not a defect or sign of permanent damage.

13 DIGITAL ZOOM

The RICO 2 wil quickly increase the base magnification by enlarging the image from 1 to 4 times digitally.(L42R 1 to 4x H50R&H75R 1 to 8x ,S75R 1 to 10x)

To use digital zoom:

1. From the homescreen, rotate the zoom lever(7) clockwise to zoom in or counterclockwise to zoom out on theobserved object.

2. The real-time amplification.stepless zoom in.

14 Photo and Video Recording

The RICO2 is equipped with video recording and image capture.All videos and photos are automatically saved to the built-in 32 GB memory storage.

NOTE: Photo and video files are named with the time and date;therefore, it is recommended to set the date and time before usingthe photo and video functions.

Photography

To take a photo:

1. From the home screen,short press the DownButton.

2. The camera icon will appear briefly inthe upper-left corner of the screen to indicate a photo was taken.

NOTE: A red warningicon ① appears next tothe camera icon in the upper-left corner of the screen when insufficient memory storage is available, Transfer video and image files to other storage media to free up space on the memory card.

Video Recording

To record video:

1. Turn on the microphone in the main menu if desired.

2. From the home screen,long press the Down Button to start a video recording.

3. When the video recording starts, the recording timer, in HH:MM:SS (hour, minute, second) format,appears in the top status bar.

4. When recording, short press the Down Button to take a photo.

5. Long press the DownButton to stop and save the video recording.

Recoil Activated Video Recording

When recoil activatedvideo is turned on in the main menu, a video is automatically recorded when a shot is taken. The RICO 2 will record 3 seconds before the shot and 2 minutes and 57 seconds after the shot.The recoil activated video icon appears in the top status bar when RAV is turned on. The video recording timer, in HH:MM:SS (hour, minute, second) format, will appear next to the RAV icon when video is recording.

NOTES:

When multiple shots are taken within the same 30-second period, only one video will be taken.When recoil activated video recording is turned on, standard video recording is unavailable.

Video and Photography Notes

You may enter and navigate the menu during video recording. The user interface (the status bar, icons, and menu) is captured in recorded video or photo files.Recorded photos and videos are saved to the memory card.

Photos are saved as PIC_HHMMSS.jpg.Videos are saved as VID HHMMSS.mp4 or RAV HHMMss.mp4.HHMMSS is hour, minute, second.

The maximum duration of a recorded video file is 5 minutes.After this time, video recording will begin a new file automatically.

The number of recorded files is limited only by the capacity of the internal memory.

Regularly check the available memory storage space and move video footage and images to other storage media to free up space on the memory card.

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 RICO2   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..

15 Shortcut Menu

In the quick menu, the color palette, image brightness, image contrast,image sharpness, and zero distance can be quickly adjusted. On the home screen, short press the MenuButton to enter the quick menu.

Short press the Up or Down Button to move between the menu options below. The selected menu item is highlighted in the background.

(Color Palette): Short press the Menu Button to se tthe color palette to white hot , black hot,   red hot. rainbow , violet, crimson ,or viridian.

(Image Brightness): Short press the MenuButton to set the image brightness level, from 1-10.

D(Image Contrast): Short press the Menu Button to set the image contrast level, from 1-10.

(Image Sharpness): Short press the Menu Button to set the image sharpness level, from 1-10.

(Zero Distance): Short press the Menu Button to select a zero distance within the selected zeroing profile. Only the zero distances in the

selected profile will be available for selection. The selected zeroing profile and distance appear in the bottom status bar.

Long press the MenuButton to save any changes and return to the home screen.

16 Main Menu

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

Within the **Main Menu** options, short press Up or Down button switch between different main menu options. Icons change from white to blue when a Main Menu option is selected.

NOTE: In the quick menu, after 5 seconds ofinactivity, the system will automatically save any changes and return to the home screen.

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

If there is no operation for 15 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:

Ultra Clear	• Press and hold the Menu button to open the Main Menu; • Short press Up or Down button to switch to the Ultra Clear option; • Within the Ultra Clear option, press the Menu button to enable or disable the Ultra Clear mode. **Note:** We recommend to enable Ultra Clear mode on cloudy and rainy days to effectively enhance image quality.	

Reticle	• Press and hold the the Menu button to open the Main Menu; • Short press Up or Down button to switch to the Reticle option. • Within the Reticle option, there are three submenu options: 1. .Zeroing Profile 2 .Reticle Type 3.Reticle Color • Within the Zeroing Profile option, there are A/B/C/D/E/F/G, a total of 7 rifle types to choose from. • Within the Reticle Type option, there are 7 reticle styles to choose from. Type 8 allows users to customize their own reticle types via the APP. • Within the Reticle Color option, there are 8 reticle colors to choose from: Black Red, Black Green, White Red, White Green, Black White, White Black, Red, and Green.	

Zeroing ⊕	● Press and hold the the Menu button to enter the Main Menu interface. ● Short press Up or Down button to switch to the Zeroing option. ● Within the Zeroing option, press the Menu button to enter Zeroing. ● Please refer to the "Zeroing" section for detailed guidance for zeroing.
PIP ▢	● Press and hold the the Menu button to enter the Main Menu interface. ● Short press Up or Down button to switch to the PIP option. ● Within the PIP option, press the Menu button to enable or disable PIP mode.
WIFI 📶	Press and hold the Menu button to enter the Main Menu interface. ● Short press Up or Down button to switch to the WIFI option. ● Within 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 "RICO2 H50R_XXXXXXX" on the mobile device. ● Select the Wi-Fi and enter the password to connect. The initial password is 12345678. ● 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 RICO2 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.	
Calibration	Press and hold the Menu button to enter the Main Menu interface. - Short press Up or Down button to the Calibration option. - Within the Calibration option, you can set the non-uniformity correction mode to automatic or manual.	
	Press and hold the Menu button to enter the Main Menu interface. Short press Up or Down button to the Recoil Activate Video option. Within the Calibration option, you can set the Recoil Activate Video function on or off. NOTES: When multiple shots are taken within the same 30-second period, only one video will be taken. When recoil activated video recording is turned on, standard video recording is unavailable	
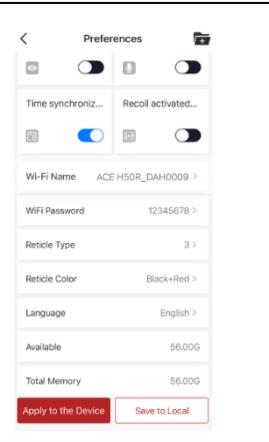
Ballistic **Calculation**	● Press and hold the Menu button to enter the Main Menu interface. ● Short press Up or Down button to switch to the Ballistic Calculation option. ● Please refer to the "Rangefinder and Ballistic Calculation" section for detailed guidance.
Microphone	● Press and hold the Menu button to enter the Main Menu interface. ● Short press Up or Down button to switch to the Microphone option. ● Within the Microphone option, press the Menu button to enable or disable the Microphone function.
Motion Sensor	● Press and hold the Menu button to enter the Main Menu interface. ● Short press Up or Down button to the **Motion Sensor** option. ● Within the Motion Sensor option, press the Menu button to enable or disable the Motion Sensor. ● When the motion sensor is 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.

Standby ⊄	● Press and hold the Menu button to enter the Main Menu interface. ● Short press Up or Down button 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 mode to save power when the vertical tilt angle exceeds 70° or the horizontal tilt angle exceeds 30°.
Brightness	● Press and hold the Menu button to enter the Main Menu interface. ● Short press Up or Down button to switch to the Brightness option. ● Within the Standby option, Rotate the zoomlever right or left to adjust the screen brightness level, from 0-100%.
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.

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 and hold the Menu button to enter the Main Menu interface. ● Short press Up or Down button to switch to the **Pixel Defect Correction** option. ● The PIP function is automatically turned on, and display on the Lower left of the screen by default. The moving directions (X-axis and Y-axis) and the numbers of corrected pixels are shown on the Lower left side of the screen. ● In the Pixel Defect Correction interface, the reticle is instead by a small cross cursor. ● Short press Up or Down button move along the direction selected, Down button to move leftward or downward, and Up button 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 . ● When + icon was selected, short press up or down button,the value of + will be changed from "0" to "1". At the same position, press the UP or Down button again to revoke the defect pixel correction and the value will be changed from "1" to "0". ● Long press Menu button and select 'Yes' to save and exit, or select 'No' to cancel saving and exit. You can also choose the automatic defective pixel calibration function by short press $+^{+}_{+}$ icon.

Setting ⚙️	• Press and hold the Menu button to enter the Main Menu interface. • Short press Up or Down button to select the Setting option. • Press the Menu button briefly to enter the submenu. • This menu item allows you to configure the following settings.	
	Date 📅	**Set system date** • Within the Date option, short press the Menu button to switch the Year / Month / Day option; • Short press Up or Down button 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; • Short press Up or Down button to adjust the value of Hour / Minute. • After the adjustment is completed, press and hold the Menu button to save and exit Time option.
	Languages 🌐	**Set system languages** Within the Languages option, short press Up or Down button to switch different languages. • Languages available for the RICO2 series include English, German, Spanish, Italian, French, Czech, Hungarian. • After the adjustment is completed, press and hold the Menu button to save and exit Languages option.
	Unit M/Y	**Set system unit** • Within the Unit option, short press Up or Down button 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.	
	Factory Reset ↻	**Factory reset** ● Within the Factory Reset option, you can use UP or Dwon button to choose yes option,and short press Menu button to set RICO2 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.	

17 FW Updates and APP

The RICO2 series Thermal Imaging Scope allows you to transmit images to a smartphone or tablet via Wi-Fi in real time mode.

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.

18 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 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.

19 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 iced.	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 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 rearview 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.	

20 Legal and Regulatory Information

Wireless transmitter module frequency range:

WLAN: 2.412-2.472 GHz

Wireless transmitter module power < 20 dBm

We Inlumen Technologies Co., Ltd. hereby declares that the radio equipment types RICO2 is in compliance with the Directives 2014/53/EU and 2011/65/EU

FCC Statement

FCC ID: 2BHFB-RICO2-00

Labeling requirements

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

Information to 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 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.

To comply with RF exposure requirements, a minimum separation distance of 0.00 cm must be maintained between the user's body and the handset, including the antenna.

Nocpix