N O C P I X
VISTA SERIES
Thermal Imaging Rangefinder

✕ Nocpix

⚠ CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
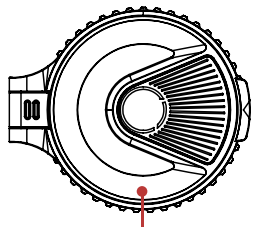
2601 State Hwy 121, Building 3, Suite 306, Lewisville, TX 75056
800.769.7125 info@irayusa.com
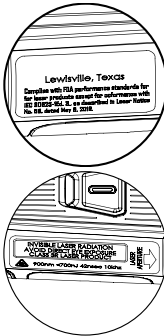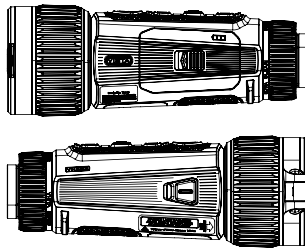
NOTICE: This product is a Class 3R laser product.

Explanatory Label **Mfr ID and Certification Label**

INVISIBLE LASER RADIATION
AVOID DIRECT EYE EXPOSURE
CLASS 3R LASER PRODUCT

900nm <700nJ 42nsec 10khz

LASER APERTURE

Lewisville, Texas
Complies with FDA performance standards for laser products except for conformance with IEC 60825-1 Ed. 3., as described in Laser Notice No. 56, dated May 8, 2019.

Lewisville, Texas
Complies with FDA performance standards for laser products except for conformance with IEC 60825-1 Ed. 3., as described in Laser Notice No. 56, dated May 8, 2019.

INVISIBLE LASER RADIATION
AVOID DIRECT EYE EXPOSURE
CLASS 3R LASER PRODUCT
900nm <700nJ 42nsec 10khz

LASER APERTURE

**Laser Aperture
(Integrated into the Objective)**

NOTE: There is no scheduled maintenance or service necessary to keep this product in compliance and no user service or maintenance is required.

This Laser Product is designated as Class 3R during all procedures of operation.

Wavelength: 900 nm
Laser Power for Classification: <700nJ
Emission Type: Pulsed, Invisible
Pulse Width: 42 nSec
Emission Frequency 10 kHz

INVISIBLE LASER RADIATION

AVOID DIRECT EYE EXPOSURE

CLASS 3R LASER PRODUCT

NOTES:

- There is no service required or allowed of this product by the end user.
- This product is to be serviced or repaired only by factory authorized technicians.
- This product is not to be opened or modified by the user.
- The user is not to modify the unit or remove protective covers or housing. Service is only to be handled by authorized factory trained technicians. This product has no user-serviceable parts.
- Do not point laser or allow laser light to be directed or reflected toward other people or reflective objects.
- Operators should be trained to not target the eyes of people, animals, and pets or aim at reflective objects, etc.
- There is a potential hazard of eye or skin exposure to laser radiation if the included instructions are not followed.
- This laser is never to be operated if the unit is defective or the cover or seal is damaged.
- Always operate the product with the aperture pointed downrange.

Table of Contents

WARNING: CHOKING HAZARD
Children under 3 years old can choke or suffocate on small parts of this product. This product is not a toy; keep out of reach of children.

1. Overview

The all-new VISTA Series handheld thermal monocular features an advanced 35mm or 50 mm f/0.9 germanium lens, offering exceptional clarity and detail. Equipped with a high-resolution 640×512 thermal sensor and an impressive ≤15mK NETD sensitivity rating, the lightweight and ergonomic monocular delivers crystal-clear images with remarkable detail and contrast, making it perfect for wildlife observation and security applications.

The integrated laser rangefinder enhances its functionality, boasting a maximum detection range of 1,200 yards with a remarkable sensitivity of ±1 yard. This ensures accurate distance measurements, crucial for effective scouting and scanning. Its ergonomic design ensures comfortable handling, while the intuitive interface allows for seamless operation. Perfect for long-range observation, the VISTA Series now features the new IBP-7 battery with direct USB-C charging. Whether you're scanning for coyotes or conducting night-time surveillance, this is your go-to tool for unparalleled thermal imaging performance.

2. Features

- 12 μm high-performance thermal detector
- ≤15 mK sensitivity
- 1200-yard laser rangefinder integrated into the objective lens
- Digital zoom from 1.0×–8.0×
- Polymer housing with rubber overmold
- Two quick-change rechargeable IBP-7 battery packs
- Maximum detection range 2400 yards
- 2560×2560 AMOLED display
- High frame frequency: 60Hz
- Built-in 64 GB storage to support image capture and video recording
- Built-in Wi-Fi module
- Mobile device App compatible
- Picture in Picture (PIP)
- User-friendly interface
- Ultra-clear mode for advanced image detail
- Warm and cool image-hue options
- Pixel calibration function

3. Tech Specs

|	VISTA H35R	VISTA H50R
Sensor		
Resolution	640×512	
Pixel Size	12 μm	
Frame Rate	60hz	
Sensor Sensitivity	≤15 mK	
Image Processing	Reality+	
Core	Nocpix 640	
Optics		
Objective Lens	35 mm f/0.9	50 mm f/0.9
Magnification	3×	4×
Digital Zoom	8×	8×
Field of View	12.5° × 9.4°	8.8° × 6.6°
Detection Range	1750 Yards	2400 Yards
Display Type	1.03-inch Large-format AMOLED	
Display Resolution	2560×2560	
Color Palettes	White Hot, Black Hot, Red Hot, Color, Crimson, Viridian, Violet	
P.I.P.	Yes	
Rangefinder	Integrated 1,200 yd LRF	
Eye Relief	25 mm	
Diopter Range	−4 to +6	
Electronics		
Onboard Recording	Video and Image	
Onboard Storage	64 GB	
Wireless Connectivity	Image and Video via App.	
Data/Power Connector	USB-C	
Power Supply	USB-C External, IBP-7 Li-ion Batteries ×2 (5+ Hours Each)	
Start Up Time	<10 Seconds, Instant from Standby	
Physical		
Size	7.48″ × 2.64″ × 3.11″	7.83″ × 2.72″ × 3.23″
Weight	22.58 Oz	22.93 Oz
Environmental/Warranty		
Warranty	5 Years	
Housing Material	Polymer with Rubber Overmold	
Ingress Protection	IP67	
Operation Temperature	−4°F~122°F	

4. Accessories

The VISTA Series thermal imaging rangefinder ships with everything you need to get out and hunt.

- 35mm or 50mm Objective Lens Cap
- IBP-7 Battery Packs 4400 mAh
- USB-C Cable
- Soft Case and Straps
- Lens Cloth
- User Manual

Various replacement accessories are available for purchase. Contact us at 800-769-7125 or irayusa.com/support.

5. Components and Controls
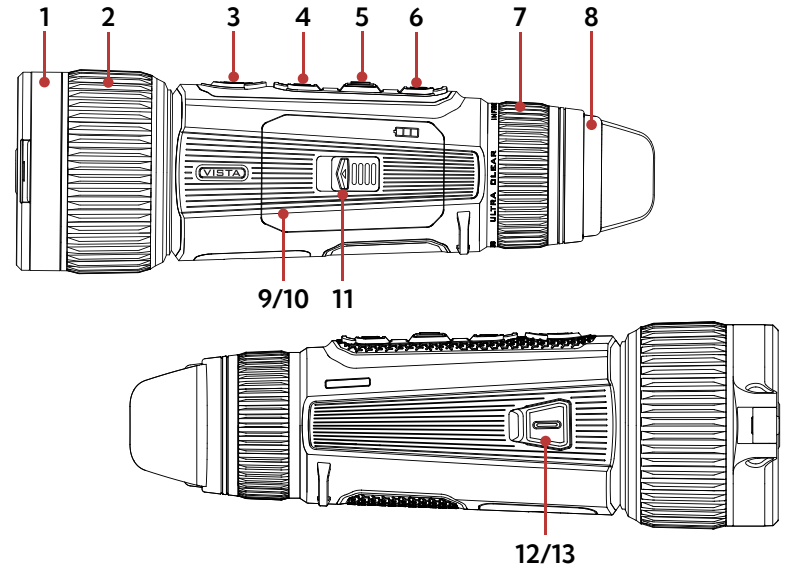
1	Objective Lens Cap
2	Objective Lens Focus Knob
3	Power Button
4	Up Button
5	Menu Button
6	Down Button
7	Eyepiece / Diopter Adjustment Ring
8	Eyeguard
9	Battery Compartment Cover
10	IBP-7 Battery Pack
11	Battery Cover Release Button
12	USB-C Port
13	USB-C Port Cover

6. Description of Control Buttons and Shortcuts

Power Button ⏻		
Current Screen, Menu, or Device Status	**Short Press**	**Long Press**
Device off	——	Power on the device
Home screen	Enter standby mode	Power off the device
Standby mode	Exit standby mode	——
Main menu	Return to the previous menu without saving changes	Power off the device

Up Button △		
Current Screen / Menu	**Short Press**	**Long Press**
Home screen	Adjust the digital zoom level	Turn the laser rangefinder on/off
Main menu / quick menu	Move the cursor up	——

Up Button △ + Down Button ▽		
Current Screen / Menu	**Short Press**	**Long Press**
Home screen	Manually perform a shuttered non–uniformity correction	Manually perform a shutterless non–uniformity correction

Menu Button Ⓜ		
Current Screen / Menu	**Short Press**	**Long Press**
Home screen	Enter the quick menu	Enter the main menu
Main menu	Change menu options; enter the submenu; or confirm submenu changes and return	Save and return to the home screen
Quick menu	Toggle through the menu options	Exit the quick menu

Up Button △ + Menu Button Ⓜ		
Current Screen / Menu	**Short Press**	**Long Press**
Home screen	——	Turn PIP on/off

Down Button ▽		
Current Screen / Menu	**Short Press**	**Long Press**
Home screen	Take a photo	Start / stop recording video
Main menu / quick menu	Move the cursor down	——

Menu Button Ⓜ + Down Button ▽		
Current Screen / Menu	**Short Press**	**Long Press**
Home screen	——	Switch between single and continuous the rangefinding modes

7. Quick Start Guide

Step 1: Prepare to Use the VISTA Series

1. Compare the box contents to the accessories list and examine each for any shipping damage. See **Accessories** on page 4.

2. Check the lens to ensure there are no smudges or dirt present. Clean with the included lens cloth, if necessary.

3. Charge the batteries **(10)**. See **Charging the Batteries** on page 9.

Step 2: Turn On the VISTA Series

1. Open the objective lens cap **(1)**.

2. Long press the **Power ⏻ Button** for 3 seconds to power on the VISTA Series.

3. Rotate the eyepiece diopter adjustment ring **(7)** until the interface icons are clear.

   WARNING: Do not point the objective lens toward intense energy sources, such as the sun. This may render the electronic components inoperative. The warranty does not cover damage caused by improper operation.

Step 3: Adjust Settings in the Quick Menu

Short press the **Menu Ⓜ Button** to enter the quick menu to adjust the following settings (see **Using the Quick Menu** on page 15):

1. Set the color palette to white hot, black hot, red hot, color, crimson, viridian, or violet.

2. Select an image brightness level, from 1–10.

3. Select an image sharpness level, from 1–10.

4. Select an image contrast level, from 1–10.

Step 4: Adjust Device Settings

1. Long press the **Menu Ⓜ Button** to enter the main menu (see **Main Menu Options and Descriptions** on page 23 for detailed instructions) to:

   a. Turn on Ultra-Clear mode.

   b. Set the non-uniformity correction (NUC) mode to automatic or manual.

   c. Turn on the microphone.

   d. Set the image hue to warm or cool.

   e. Set the date and time.

   f. Set the units of measure to yards or meters.

2. From the home screen, short press the **Up △ Button** to adjust the digital zoom level to 1×, 2×, 4×, or 8×.

3. From the home screen, long press the **Menu Ⓜ** and **Up △ Buttons** at the same time to turn on the PIP window.

8. Charging the Batteries

The VISTA Series thermal imaging rangefinder comes with two long-lasting rechargeable, lithium-ion IBP-7 battery packs, which allow for 5+ hours of operation each. Fully charge the batteries before using the VISTA Series for the first time.

Charging with the USB-C Cable

The battery may be charged by itself or when installed in the VISTA Series.

1. **To charge the battery when it is installed in the VISTA Series:** open the USB-C port cover **(13)** and connect the data cable **(14)** to the USB-C port **(12)**; **OR**

2. **To charge the IBP-7 battery separately:** connect the data cable to the USB-C port **(15)** on the side of the battery.

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

   a. A 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.

4. When fully charged, disconnect the charging cable.

Battery USB-C Port (15)

VISTA USB-C Port (12) and Cover (13)
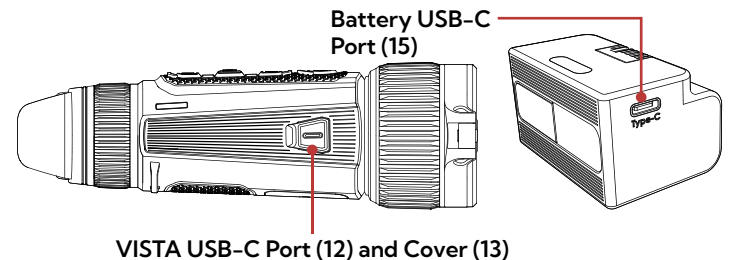
NOTES:

- You may charge and operate the VISTA Series at the same time.

- When charging the battery while it is installed in the VISTA Series, the battery status ▭ icon in the status bar changes to the battery charging ⚡ icon. The battery status LED on the side of the VISTA Series will be red during charging and turn green when the battery is fully charged.

- When charging the battery separately from the VISTA Series, the three battery indicator LEDs flash during charging. When the battery indicator LED remains lit, the battery is fully charged.

- 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.

9. Installing a Battery

1. Slide the battery cover release button **(11)** on the side of the VISTA Series in the direction of the arrow to remove the battery compartment cover **(9)**.

2. Position the IBP-7 battery pack **(10)** with the slots **(A)** facing up.

3. Slide the battery pack into the battery compartment and press firmly to secure it.

Battery Cover Release Button (11)
Battery Compartment Cover (9)
Slots (A)
Battery Pack (10)
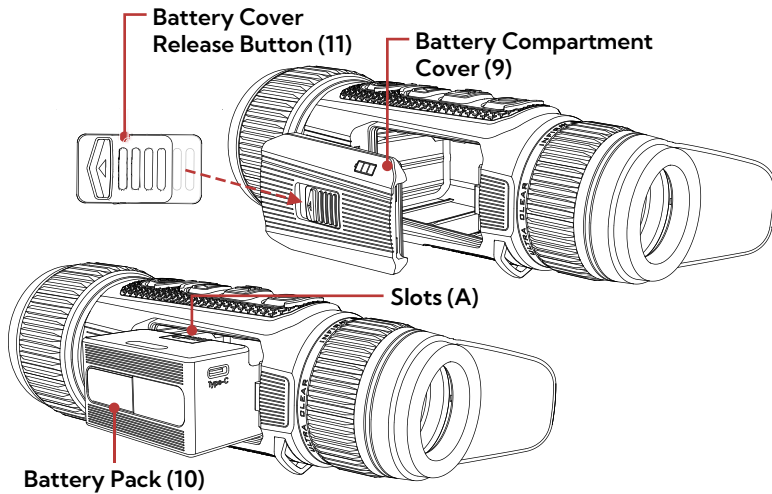
4. Replace the battery compartment cover and slide the release button away from the objective lens to lock it in place.

WARNING: The VISTA Series can only be powered by an IBP-7 battery. Using any other battery type may cause irreparable damage to the VISTA Series or cause a fire. Any damage from using an improper battery will not be covered by warranty.

10. Removing the Battery

To remove the battery from the VISTA Series:

1. Slide the battery release button **(11)** on the side of the VISTA Series in the direction of the arrow to remove the battery compartment cover **(9)**.

2. Pull the battery out and replace the cover.

11. Battery Safety Warnings

WARNINGS:

- Do not use a power adapter or USB-C cable that has been modified or damaged.
- Do not expose the batteries to high temperatures or open flame, and do not immerse in water.
- Do not leave the batteries unattended while charging.
- Do not leave the batteries charging for long periods after full charge is reached. Charging time should not exceed 24 hours.
- Keep batteries out of the reach of children and pets.
- The batteries are equipped with short-circuit protection. However, any situation that may cause short-circuiting should be avoided.
- Do not disassemble, modify, hit, or drop the batteries.
- Do not connect the batteries 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.
- Charge the batteries at a temperature range from 32 °F to 113 °F; otherwise, the service life of the battery may be reduced.
- The recommended operating temperature range is -4 °F to 122 °F. Avoid using the batteries above the maximum or below the minimum recommended temperature range as this may decrease the battery capacity or service life.

12. External Power Supply

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

1. Connect the data cable **(14)** to the USB-C port **(12)**.
2. Connect the other end of the USB-C cable to the external power supply.
3. The VISTA Series will switch to operation from the external power supply, and the battery 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 is disconnected, the VISTA Series will switch to the battery automatically, if installed, without powering off.

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

13. Operating Instructions

> **W A R N I N G !**
> Don't point the objective lens towards any intense energy sources, such as laser radiation or the sun. This may render the electronic components inoperative. The warranty does not cover damage caused by improper operation.

Using the Control Buttons

The VISTA Series is operated via four control buttons. The control buttons can be used to perform shortcut operations from the home screen, as well as in the menu and full-screen interfaces. See **Description of Control Buttons and Shortcuts** on page 6 for shortcut button details.

Powering On

1. Open the objective lens cap **(1)**.

2. Long press the **Power ⓞ Button** for 3 seconds to turn on the VISTA Series. The Nocpix logo will appear.

3. To determine the current battery charge, check the battery status ⬜ icon in the status bar.

Powering Off and Entering Standby

To power off the VISTA Series:

1. Long press the **Power ⓞ Button**. The shutdown screen will open, showing a 3-second countdown.

2. The VISTA Series will power off automatically when the countdown completes.

NOTE: Press any button during the 3-second countdown to stop the shutdown process and resume normal operation.

WARNING: If using an external power supply and no battery is installed, do not remove the power supply when saving data, as the data may not be saved.

STANDBY MODE
Standby mode may be activated at any time to conserve battery life.

1. To enter standby from the home screen, short press the **Power ⓞ Button**.

2. Short press the **Power ⓞ Button** to exit standby.

Adjusting the Focus

ADJUSTING THE DIOPTER/EYEPIECE

1. Rotate the eyepiece diopter adjustment ring **(7)** at the rear of the VISTA Series right or left until the user interface is clear.

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

NOTES:
- After the initial adjustment, there is no need to rotate the eyepiece adjustment ring **(7)** for long distances or other conditions.
- If necessary during standard use, the objective lens focus knob **(2)** 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 **(2)** left or right to adjust fine focus.

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

Status Bar Overview

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

1. **Time:** Shows the current time in 24-hour format.
2. **Battery Status:** Shows the battery status.
3. **Total Magnification:** Shows the total magnification, 4×, 8×, 16×, or 32×.
4. **Non-Uniformity Correction (NUC) Mode:** Shows the selected non-uniformity correction (NUC) mode, automatic Ⓐ or manual Ⓜ. When automatic mode is selected, a countdown timer ⑤ icon will appear when 5 seconds remain until a NUC.
5. **Ultra-Clear:** Shows the Ultra-Clear status, on ⊙ or off ⊘.
6. **Wi-Fi:** Shows the Wi-Fi status, on 📶 or off ⌀.
7. **Microphone:** Shows the microphone status, on 🎤 or off 🎤.

BATTERY STATUS

The battery icon color and fill level indicate the current battery status. The battery icon is replaced by the charging battery icon when an external power supply is connected.

COLOR / ICON	BATTERY STATUS
White Battery 🔋	41% – 100%
Yellow Battery 🔋	20% – 40%
Red Battery 🔋	<20%; charge the battery right away.
Charging Battery 🔋	The battery is charging; an external power supply or computer is connected via the charging cable.
USB 🔌	No battery is installed; an external power supply or computer is connected via the charging cable.

Using the Quick Menu

In the quick menu, the color palette, image brightness, image sharpness, and image contrast can be quickly adjusted.

- On the home screen, short press the **Menu** Ⓜ **Button** 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 set the color palette to white hot, black hot, red hot, color, crimson, viridian, or violet.

  - ☀ **(Image Brightness):** Short press the **Menu** Ⓜ **Button** to set the image brightness level, from 1–10.

- ▲ **(Image Sharpness):** Short press the **Menu Ⓜ Button** to set the image sharpness level, from 1–10.
- ◑ **(Image Contrast):** Short press the **Menu Ⓜ Button** to set the image contrast level, from 1–10.

- Long press the **Menu Ⓜ Button** to save any changes and return to the home screen.

- After 7 seconds of inactivity, the system will automatically save any changes and return to the home screen.

Navigating the Main Menu

- From the home screen, long press the **Menu Ⓜ Button** to enter the main menu.
- Short press the **Up △** or **Down ▽ Button** to move through the menu options.
- A blue menu icon indicates the cursor position in the menu.
- Short press the **Menu Ⓜ Button** to:
  - Change the parameters for the selected menu option; **OR**
  - Enter the submenu; **OR**
  - Confirm submenu changes and return to the previous menu.
- Long press the **Menu Ⓜ Button** to confirm any changes and return to the home screen.
- Short press the **Power ⊙ Button** to return to the previous menu without saving.
- After 15 seconds of inactivity, the menu will automatically close and the interface will return to the home screen. Changes (except changes to toggle on / off menu items, such as Ultra-Clear and Wi-Fi) are not saved automatically.

14. Non-Uniformity Correction

A non-uniformity correction (NUC) allows a thermal imager's sensors to correct its pixels and eliminate any image defects caused by pixel drift. A NUC will be performed automatically each time the VISTA Series is powered on.

Automatic NUC Mode

When automatic NUC mode Ⓐ is turned on (see **Main Menu > Calibration** on page 26), the VISTA Series will perform a shuttered NUC automatically according to the internal software algorithm. There is no need to close the objective lens cap **(1)** as the internal shutter covers the sensor. When automatic mode is turned on, a countdown timer icon will appear when 5 seconds remain until a NUC. The timer will appear only after the microbolometer temperature has stabilized—after approximately 10 minutes of continuous operation of the VISTA Series.

> **NOTE:** A manual NUC may be performed at any time.

Performing a Manual NUC

The user may independently determine the need to perform a shuttered or shutterless NUC at any time based on the quality of the observed image.

SHUTTERED NUC

It is not necessary to close the objective lens cap **(1)** during a shuttered NUC, as the internal shutter covers the sensor.

1. From the home screen, short press the **Up △** and **Down ▽ Buttons** at the same time.
2. The internal shutter will cover the sensor and a shuttered non-uniformity correction (NUC) will be performed instantly.

SHUTTERLESS NUC

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.

1. Close the objective lens cap **(1)**.
2. From the home screen, long press the **Up △** and **Down ▽ Buttons** at the same time.
3. A prompt to close the lens cap appears onscreen. The shutterless 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.

15. Photography and Video Recording

The VISTA Series is equipped with video recording and image capture. All videos and photos are automatically saved to the built-in 64 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 using the photo and video functions. See **Settings Menu > Date and Time** on page 27. Alternatively, the date and time may be synchronized in the NOCPIX App.

Photography 📷

To take a photo:

1. From the home screen, short press the **Down** ▽ **Button**.

2. The image will freeze for 0.5 seconds and the camera 📷 icon will appear briefly in the upper-right corner of the screen to indicate a photo was taken.

NOTE: A red warning icon ⓘ appears next to the 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. See **Main Menu > MIC** on page 25.

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 MM:SS (minute, second) format, appears in the upper-right corner of the screen.

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

5. Long press the **Down** ▽ **Button** to stop and save the video recording.

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 VIDEO_HHMMSS.mp4.
  - HHMMSS is hour, minute, second.
- 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.

16. Accessing the Internal Memory

When the VISTA Series is turned on and connected to a computer via the included data cable, it is recognized by the computer as a flash memory (USB) drive. This allows the user to access the saved multimedia files and copy or delete any desired files.

To access the internal memory:

1. Turn on the rifle scope.

2. Connect the VISTA Series to your computer via the included data cable **(14)**.

3. Double-click **My Computer** on your computer desktop.

4. Double-click to open the device named **NOCPIX**.

5. Double-click to open the device named **VISTA** to access the built-in memory.

   a. Recorded photos and videos are separated into folders by date.

6. Select the desired files or folders to copy or delete.

17. Using The NOCPIX App

The VISTA Series can be operated using the NOCPIX App when connected to a tablet or smartphone or via Wi-Fi.
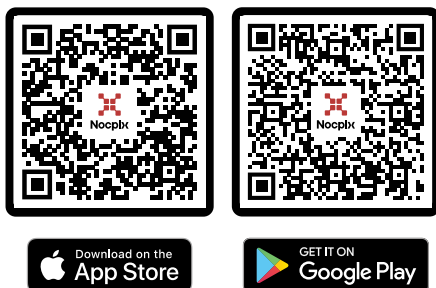
1. Download the App for free and install it on your device:
   a. Scan a QR code to download it from the App Store or Google Play; **OR**
   b. Download the App from any app store.
2. Connect the VISTA Series to Wi-Fi:
   a. Turn on the Wi-Fi. See **Main Menu > Wi-Fi** on page 24 for instructions.
   b. Open the App and click the **Connect Device button**. Then, click **Connect Phone WLAN**.
   c. On the mobile device, go to **Settings > Wi-Fi**.
   d. Select the VISTA Series from the list of Wi-Fi networks. It will appear in the list as "XXXXX_YYYYYY" where XXXXX is the model number and YYYYYY is the device serial number.
   e. Enter the Wi-Fi password and tap the **Join button**. The default password is 12345678.
3. Operate the VISTA Series via the App:
   a. Take real-time photos and videos, with or without audio.
   b. View, share, download, and delete photos and videos taken via the App, which are saved to the mobile device.
   c. Change the Wi-Fi password and SSID.
   d. Synchronize the date and time from the mobile device.
   e. Update the VISTA Series firmware.

NOTE: When a factory reset is performed, the Wi-Fi SSID and password are reset to the defaults, XXXXX_YYYYYY and 12345678. See **Settings Menu > Factory Reset** on page 30.

18. Integrated Laser Rangefinder

The VISTA Series is equipped with an integrated, precision laser rangefinder which allows the user to measure the distance to objects up to 1200 yards away, with ±1-yard accuracy. The laser rangefinder has two rangefinding modes: continuous and single-measurement capture. Continuous rangefinding allows the user to adjust quickly to changing distances for better shot placement.

CAUTION: Do not stare directly into the laser.

The rangefinder interface has the following features:

1. **Cursor:** The white rangefinder cursor ◦╫◦ appears in the center of the screen.
2. **Mode:** Shows the selected rangefinding mode, CONT (continuous) or SGL (single).
3. **Rangefinding Measurement:** Shows the target distance.

To use the laser rangefinder:

1. Long press the **Up △ Button** to turn on the laser rangefinder.
2. Locate the target.
3. Long press the **Menu Ⓜ** and **Down ▽ Buttons** at the same time to switch between single and continuous ranging modes. The selected mode is listed to the left of the target distance in the upper-right corner.
4. When in continuous rangefinding mode:
   a. The distance to the target indicated by the cursor will be refreshed automatically by the rangefinder every second.
   b. Long press the **Up △ Button** to turn off the laser rangefinder.
5. When in single rangefinding mode:
   a. Long press the **Up △ Button** to take a rangefinding measurement.
   b. The laser rangefinder will automatically turn off after displaying the rangefinding measurement.

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.

19. Digital Zoom

The VISTA Series will quickly increase the base magnification by enlarging the image from 1 to 8 times digitally.

To use digital zoom:

1. From the home screen, short press the **Up △ Button** to toggle through the digital zoom levels, 1×, 2×, 4×, and 8×.

2. The total magnification is displayed in the status bar.

20. Picture in Picture

The Picture in Picture (PIP) function opens a small floating window with a magnified image view at the top of the screen. PIP allows for improved aiming while still being able to see the wide field of view in the main body of the screen.

To activate PIP mode:

1. From the home screen, long press the **Menu M** and **Up △ Buttons** at the same time, or select the PIP menu item in the main menu. A 2× zoomed image, centered on the screen will appear at the top of the screen. Please note that the PIP image is 2× that of the total magnification shown in the status bar.

2. To exit PIP mode, long press the **Up △ Button** again.

NOTE: When the image in the main body of the screen is magnified via digital zoom, the PIP image will enlarge accordingly.

21. Ultra-Clear Mode

Ultra-Clear mode improves the image quality in inclement weather conditions, such as rain, fog, high humidity, or high temperatures as these conditions all result in lower thermal contrast. Ultra-Clear mode enhances the NETD value of the thermal sensor and improves the sensor's response rate to these challenging environment conditions. See **Main Menu > Ultra-Clear** on the next page.

Ultra-Clear mode provides:

- Improved image quality and clarity; images are crisper and sharper.

- Increased image detail.

- Improved recognition of observed targets.

22. Main Menu Options and Descriptions

Menu and submenu options, from top to bottom are:

- **Main Menu:** PIP, Ultra-Clear, Wi-Fi, Image Hue, Microphone, Calibration, Gallery, Settings.
  - **Settings Menu:** Date, Time, Languages, Status Bar, Unit, Electronic Image Stabilization, Factory Reset, Info.

Menu option details, descriptions, and navigation instructions are listed in order on the following pages.

PIP 🖼

Turn PIP on / off

1. Long press the **Menu M Button** to enter the main menu.

2. Short press the **Up △** or **Down ▽ Button** to select the PIP 🖼 menu item.

3. Short press the **Menu M Button** to turn PIP on / off.

4. Long press the **Menu M Button** to return to the home screen.

Ultra-Clear ◉

Turn Ultra-Clear mode on / off

When Ultra-Clear mode is turned on, the image contrast is enhanced, which is suitable for rainy, foggy, or low-contrast conditions.

1. Long press the **Menu** Ⓜ **Button** to enter the main menu.

2. Short press the **Up** △ or **Down** ▽ **Button** to select the Ultra-Clear ◉ menu item.

3. Short press the **Menu** Ⓜ **Button** to turn Ultra-Clear on / off.

4. The Ultra-Clear status, on ◉ or off ⊘, appears in the bottom status bar.

5. Long press the **Menu** Ⓜ **Button** to return to the home screen.

> **NOTE:** When Ultra-Clear mode is turned on and off, the VISTA Series will automatically perform a shuttered non-uniformity correction.

Wi-Fi 📶

Turn Wi-Fi on / off

Turn on Wi-Fi to operate the VISTA Series via the NOCPIX App.

1. Long press the **Menu** Ⓜ **Button** to enter the main menu.

2. Short press the **Up** △ or **Down** ▽ **Button** to select the Wi-Fi 📶 menu item.

3. Short press the **Menu** Ⓜ **Button** to toggle Wi-Fi on / off. The default Wi-Fi password, 12345678, will appear briefly to the right of the toggle. The password will no longer be display if the default password is changed.

4. The Wi-Fi status, on 📶 or off 📶, appears in the bottom status bar.

5. Long press the **Menu** Ⓜ **Button** to return to the home screen.

Image Hue ❄

Toggle between warm and cool image hue modes

1. Long press the **Menu** Ⓜ **Button** to enter the main menu.

2. Short press the **Up** △ or **Down** ▽ **Button** to select the image hue ❄ menu item.

3. Short press the **Menu** Ⓜ **Button** to toggle between warm ☀ mode (toggle is on) and cool ❄ mode (toggle is off).

4. Long press the **Menu** Ⓜ **Button** to return to the home screen.

> **NOTES:**
> · Cool mode provides a brighter image and warm mode provides a softer image and reduces eye strain.
> · Image hue is available when using the white hot or black hot color palette.

Microphone 🎤

Turn the microphone on / off

1. Long press the **Menu** Ⓜ **Button** to enter the main menu.

2. Short press the **Up** △ or **Down** ▽ **Button** to select the microphone 🎤 menu item.

3. Short press the **Menu** Ⓜ **Button** to turn the microphone on / off. The microphone status, on 🎤 or off 🎤, appears in the bottom status bar.

4. Long press the **Menu** Ⓜ **Button** to return to the home screen.

Calibration ⊘

Turn automatic non-uniformity correction (NUC) mode on / off

1. Long press the **Menu** **M** **Button** to enter the main menu.

2. Short press the **Up** △ or **Down** ▽ **Button** to select the calibration ⊘ menu item.

3. Short press the **Menu** **M** **Button** to enter the settings submenu.

4. Short press the **Up** △ or **Down** ▽ **Button** to move through the submenu options, Automatic (A) and Manual (M). The selected NUC mode, A or M, appears in the bottom status bar.

5. Long press the **Menu** **M** **Button** to confirm the selection and return to the home screen.

Gallery ▦

View photos and videos saved to the device

1. Long press the **Menu** **M** **Button** to enter the main menu.

2. Short press the **Up** △ or **Down** ▽ **Button** to select the gallery ▦ menu item.

3. Short press the **Menu** **M** **Button** to enter the submenu.

4. Short press the **Up** △ or **Down** ▽ **Button** to move through the multimedia folders. Folders are named by date in YYYYMMDD format.

5. Short press the **Menu** **M** **Button** to select a folder, then use the **Up** △ and **Down** ▽ **Buttons** to navigate through the image and video files. A thumbnail of the selected file appears on the right side of the screen.

6. Short press the **Menu** **M** **Button** to view an image or video in full screen. When viewing video files, short press the **Menu** **M** **Button** to play and pause the video.

7. Short press the **Power** ⊚ **Button** to return to the list of files.

8. Long press the **Menu** **M** **Button** to return to the home screen.

Settings Menu ⧉

Adjust the general settings

1. Long press the **Menu** **M** **Button** to enter the main menu.

2. Short press the **Up** △ or **Down** ▽ **Button** to select the settings ⧉ menu item.

3. Short press the **Menu** **M** **Button** to enter the settings submenu.

SETTINGS MENU > DATE 📅

Set the date

1. In the settings submenu, short press the **Up** △ or **Down** ▽ **Button** to select the date 📅 menu item.

2. Short press the **Menu** **M** **Button** to edit the date. A blue arrow will appear above and below the year digit. The date is displayed in YYYY. MM.DD format.

3. Short press the **Up** △ or **Down** ▽ **Button** to select the correct value for each digit (year, month, and day).

4. Short press the **Menu** **M** **Button** to switch between digits. The two arrows move to indicate the selected digit.

5. Long press the **Menu** **M** **Button** to save the date and return to the home screen.

SETTINGS MENU > TIME ⏱

Set the time

1. In the settings submenu, short press the **Up** △ or **Down** ▽ **Button** to select the time ⏱ menu item.

2. Short press the **Menu** Ⓜ **Button** to edit the time. A blue arrow will appear above and below the hour digit. The time is displayed in HH:MM, in 24-hour format.

3. Short press the **Up** △ or **Down** ▽ **Button** to select the correct value for each digit (hour and minute).

4. Short press the **Menu** Ⓜ **Button** to switch between digits. The two arrows move to indicate the selected digit.

5. Long press the **Menu** Ⓜ **Button** to save the time and return to the home screen. The set time appears in the status bar.

SETTINGS MENU > LANGUAGES 🌐

Select the language

1. In the settings submenu, short press the **Up** △ or **Down** ▽ **Button** to select the languages 🌐 menu item.

2. Short press the **Menu** Ⓜ **Button** to enter the submenu.

3. Short press the **Up** △ or **Down** ▽ **Button** to move through the language options.

4. Long press the **Menu** Ⓜ **Button** to confirm the selection and return to the home screen.

SETTINGS MENU > STATUS BAR 📷

Turn the hidden status bar function on / off

This function enables all interface information, aside from the battery status icon and total magnification at the top of the screen, to be automatically hidden for unobstructed image view.

When this feature is turned on, the status bar and all interface icons will be automatically hidden, though the menu can be navigated normally. To turn off the feature and display the status bar and interface icons again, turn auto-hide off.

1. In the settings submenu, short press the **Up** △ or **Down** ▽ **Button** to select the status bar 📷 menu item.

2. Short press the **Menu** Ⓜ **Button** to enter the submenu.

3. Short press the **Up** △ or **Down** ▽ **Button** to move through options, show and hide. **Hide** will turn on the hidden status bar function and **Show** will turn it off.

4. Long press the **Menu** Ⓜ **Button** to confirm the selection and return to the home screen.

SETTINGS MENU > UNIT 〽

Set the units of measurement

1. In the settings submenu, short press the **Up** △ or **Down** ▽ **Button** to select the unit 〽 menu item.

2. Short press the **Menu** Ⓜ **Button** to enter the submenu.

3. Short press the **Up** △ or **Down** ▽ **Button** to move through the options, meters and yards.

4. Long press the **Menu** Ⓜ **Button** to confirm the selection and return to the home screen.

SETTINGS MENU > ELECTRONIC IMAGE STABILIZATION [EIS]

Turn electronic image stabilization on / off

1. In the settings submenu, short press the **Up** △ or **Down** ▽ **Button** to select the electronic image stabilization [EIS] menu item.

2. Short press the **Menu** Ⓜ **Button** to turn image stabilization on / off.

3. Long press the **Menu** Ⓜ **Button** to return to the home screen.

SETTINGS MENU > FACTORY RESET ↻

Restore factory default settings

1. In the settings submenu, short press the **Up** △ or **Down** ▽ **Button** to select the factory reset ↻ menu item.

2. Short press the **Menu** Ⓜ **Button** to enter the factory reset submenu.

3. Two options, Yes and No, appear; Yes will restore factory settings and No will cancel the operation.

4. Short press the **Menu** Ⓜ **Button** to select **Yes** to confirm the factory reset. Factory settings will be restored and the VISTA Series will reboot automatically; **OR**

5. Short press the **Up** △ or **Down** ▽ **Button** to select **No** and short press the **Menu** Ⓜ **Button** to confirm cancellation of the factory reset and return to the submenu.

FACTORY RESET NOTES:

· The screen will go dark and the factory restart will begin after a pause of about 10 seconds.

· A factory reset cannot be undone.

· The settings listed below will be reset to the factory defaults:

   · Color Palette: White Hot
   · Image Brightness: 5
   · Image Contrast: 5
   · Image Sharpness: 5
   · Digital Zoom: 1×
   · Ultra-Clear mode: Off
   · Wi-Fi: Off
   · Image Hue: C (Cool)

   · Calibration Mode: A (Automatic)
   · Microphone: Off
   · Language: English
   · Unit: M (Meters)
   · Wi-Fi Password: 12345678
   · Wi-Fi SSID: XXXXX_YYYYYY

SETTINGS MENU > INFO ⓘ

Show device information

1. In the settings submenu, short press the **Up** △ or **Down** ▽ **Button** to select the info ⓘ menu item.

2. Short press the **Menu** Ⓜ **Button** to enter the submenu.

3. The info submenu will display the following information about the VISTA Series: the model number, the GUI, SYS, boot, FPGA, and hardware versions, the part and serial numbers, and the FCC ID.

4. Long press the **Menu** Ⓜ **Button** to save and return to the home screen.

23. Basic Inspection

It is recommended to carry out a technical inspection before each use. Please check the following:

· The imager appearance: there should be no cracks in the body or visible damage.

· The condition of the objective lens and eyepiece: there should be no cracks, greasy spots, dirt, or other deposits on the lens.

· The rechargeable battery should be fully charged.

· The control buttons should be in working order.

24. Basic Maintenance

Always replace the objective lens cap **(1)** after use to avoid damaging or scratching the lens. Never touch the lens directly; oil from your skin can damage the lens coating and surface.

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

- Wipe the surface of the external metal and plastic components with a clean, dry cotton cloth. Do not use chemical, corrosive, or abrasive cleaners. Canned air may also be used to clean the external components.
- Clean the electric contacts and battery slots on the imager using a non-greasy organic solvent.
- Check the lens and eyepiece. If necessary, remove any dirt or sand from the optics; a non-contact cleaning method is preferred.
- Cleaning the exterior of the lens should only be done with the included microfiber lens cloth or a similar product. Only clean the lens when it is visibly soiled. Frequent wiping or cleaning can degrade the anti-reflective lens coating.

25. FCC Statement

FCC ID: 2BHFB-3C-00

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.

> **CAUTION:** Changes or modifications not expressly approved by IRayUSA could void the user's authority to operate the equipment.

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

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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

26. Warranty

At iRayUSA we're first and foremost hunters and users of our products and we understand that failure isn't an option. We also understand that having to wait extended periods for repair isn't something that a customer should have to put up with when something does go wrong. During your published warranty period, iRayUSA will repair or replace, at its discretion, any optic that becomes defective during normal use. Additionally, if we cannot fix your optic in less than one week, we will offer to replace it with a replacement product in like or better condition. If you would rather wait for your specific optic to be repaired, we can handle that too.

We know you've never seen this from a thermal manufacturer and neither have we; that's why we started iRayUSA.

Our warranty follows the product and is not tied to the original owner. The warranty period is tied to the date of sale to the dealer. This warranty only covers normal use and does not cover cosmetic damage, normal wear, intentional damage, theft, loss, any act of God, or a condition caused by use other than intended. Any product that is modified, opened, or tampered with will void any warranty coverage. Any serial number damage or alteration on the product will be considered a modification. Be sure to register your VISTA Series thermal imaging rangefinder at irayusa.com/register.

To return a product for repair:

1. Go to irayusa.com/warranty and click the **Request an RMA button** to request an RMA number. Returns will not be accepted without an RMA.
2. The customer is responsible for shipping the product to iRayUSA, per the instructions included with the RMA. iRayUSA will return the product at no cost.

WARRANTY NOTES:

- The one-week timeline starts from the time of receipt of the product at iRayUSA.
- iRayUSA is not liable for any damages or loss incurred when shipping to iRayUSA.
- This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Please give us a call at **800-769-7125**, visit **irayusa.com/warranty**, or email **info@irayusa.com** with any questions.

ISSUE	POSSIBLE CAUSES
The VISTA Series will not turn on.	The IBP-7 battery is very low or has completely discharged.
The VISTA Series can not connect to a computer or external power supply.	External power supply has completely discharged.
	Computer is turned off.
	USB-C cable is damaged.
The VISTA Series can not connect to the mobile device (smartphone or tablet).	Wi-Fi is not turned on.
	Wrong Wi-Fi password entered.
	Too many Wi-Fi signals nearby, which may cause interference.
Wi-Fi signal is lost or interrupted.	The device is out of range of a strong Wi-Fi signal, or there are obstacles (such as concrete walls) between the device and the signal.
The image is blurry, the background is uneven, or vertical lines or artifacts are present.	Non-uniformity correction is required.
The image is too dark.	Image brightness level is too low.
The GUI is clear, but the image is blurry.	The lens is not focused.
	There is dust or ice on the interior or exterior optical surfaces of the lens.
	There is condensation on the interior or exterior optical surfaces of the lens.
The image of the object being observed is missing.	Looking through glass.
The VISTA Series will not focus.	Image settings are not optimal for the current environmental conditions or the object being observed.

27. General Troubleshooting

The troubleshooting table below lists issues that may occur when operating the VISTA Series. Carry out the recommended troubleshooting steps in the order shown in the table. Please contact iRayUSA at 800-769-7125 or **irayusa.com/support** or an authorized vendor for assistance before attempting to perform any modifications or repairs beyond the scope of the troubleshooting procedures in this manual. Unauthorized repairs or modifications will void your warranty.

TROUBLESHOOTING STEPS
Charge the battery.
Check the external power supply and charge it if necessary.
Power on the computer.
Replace the cable.
Turn on the Wi-Fi in the main menu. See **Main Menu > Wi-Fi** on page 24.
On the mobile device, go to **Settings > Wi-Fi** and enter the correct password. The default password is 12345678. See **Main Menu > Wi-Fi** on page 24.
Move the VISTA Series and mobile device to an area with no or fewer Wi-Fi signals.
· Try again when the Wi-Fi signal is stable. · Move the VISTA Series closer to the Wi-Fi signal.
Perform a non-uniformity correction. See **Non-uniformity Correction** on page 17 and **Using the Quick Menu** on page 15.
Adjust the image brightness in the quick menu. See **Using the Quick Menu** on page 15.
· Adjust the focus on the target by rotating the objective focus knob **(2)**. · Adjust the image sharpness in the quick menu. See **Using the Quick Menu** on page 15.
· Wipe the external optical surface with the included microfiber lens cloth.
· Wipe the external optical surface with the included microfiber lens cloth. · Allow the VISTA Series to dry by leaving it in a warm, dry environment for at least 4 hours.
Remove any glass windows from the field of view.
· Check the external surface of the objective lens and eyepiece and, where necessary, wipe away any dust, condensation, frost, etc. · In cold weather, you can use special anti-fogging coatings, such as those made for corrective glasses. · Adjust the focus on the target by rotating the objective focus knob **(2)**. · Adjust the image sharpness in the quick menu. See **Using the Quick Menu** on page 15. · Adjust the image and device settings. See **Quick Start Guide** on page 8. · Turn on Ultra-Clear mode. See **Main Menu > Ultra-Clear** on page 24.

ISSUE	POSSIBLE CAUSES	TROUBLESHOOTING STEPS
Image quality is too low or the detection range is reduced.	These issues may occur due to the weather conditions, such as snow, rain, humidity, and fog.	Turn on Ultra-Clear mode. See **Main Menu > Ultra-Clear** on page 24.
When the VISTA Series is used in low-temperature conditions, the image quality of the surroundings is worse than in warm-temperature conditions.	Environmental conditions.	In warm-temperature conditions, objects being observed (surroundings and background) heat up differently because of thermal conductivity, thereby generating a high-temperature contrast. Accordingly, image quality produced by the imager will be higher. In low-temperature conditions, the background will cool down to roughly the same temperature, and thus the temperature contrast is substantially reduced and image detail can go down as there is less contrast in the scene. This is a normal function of a thermal imager and is no indicator of actual detector performance.

28. Notes

Nocpix

2601 State Hwy 121, Bldg 3, Ste 306
Lewisville, TX 75056
800-769-7125 | 682-499-0047
info@irayusa.com