User's Manual

NOCPIX

BOLT SERIES

Thermal Imaging Scope

Nocpix

W A R N I N G !
ITAR REQUIREMENTS

These products may be subject to export and foreign trade control laws of the United States and may not be exported without prior approval of the U.S. Department of State. Learn more at irayusa.com/ITAR.

⚠ CAUTION

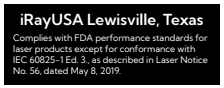
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

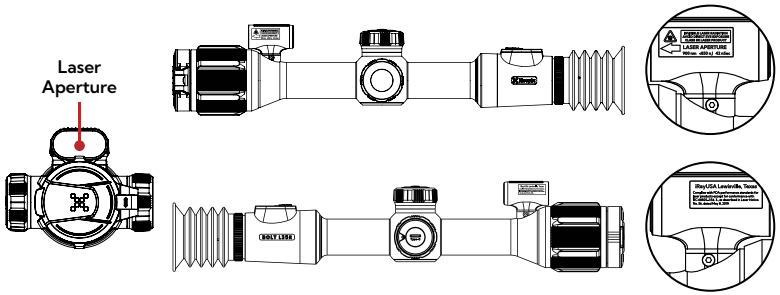
2601 State Hwy 121, Building 3, Suite 306, Lewisville, TX 75056
800.769.7125 info@irayusa.com

NOTICE: This product is a Class 3R laser product.

Explanatory Label

Mfr ID and Certification Label





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: <850nJ
Emission Type: Pulsed, Invisible
Pulse Width: 42 nSec

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.

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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 NOCPIX BOLT Series of thermal scopes combines unique features and a familiar form factor to give users the perfect night hunting optic. The NOCPIX BOLT has a built-in laser rangefinder for improved long-range capabilities. Other features include a 14× stepped digital zoom, 1024×768 display, 30mm tube-style housing, 50hz refresh rate, and Reality+ image processing. The internal battery combined with an 18650 battery provide up to 12 hours of run time so you can stay in the field longer. The integrated LRF paired with built-in ballistics software gives you more confidence to take shots at extended distances with ease, while the gallery function allows for instant replay of your recordings.

2. Features

- 12 µm high-performance thermal detector
- ≤20 mK sensitivity
- 1,300-yard integrated laser rangefinder
- 14× Stepped digital zoom
- T-6063 Aluminum housing
- Dual power supply solution for extended operation
- Maximum detection range: 1970 yards
- 1024×768 AMOLED display
- High frame frequency: 50Hz
- Recoil activated video
- Five ballistics profiles and a user-defined, multi-variable ballistics calculator
- Multiple zero profiles and ranges
- Traditional 30 mm diameter housing design
- Built-in 32 GB storage to support image capture and video recording
- Built-in Wi-Fi module
- Mobile device App compatible
- Gallery function for photo/video playback
- 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

NOCPIX BOLT	P25R	L35R
Sensor		
Resolution	256×192	384×288
Pixel Size	12 µm	
Frame Rate	50hz	
Sensor Sensitivity	≤20 mK	
Image Processing	Reality+	
Core	Nocpix 256	Nocpix 384
Optics		
Objective Lens	25 mm f/1.0	35 mm f/1.0
Magnification	3.5×	
Digital Zoom	4×	
Field of View	7.0° × 5.3°	7.5° × 5.7°
Detection Range	1310 Yards	1970 Yards
Display Type	0.39-inch AMOLED	
Display Resolution	1024×768	
Color Palettes	White Hot, Black Hot, Red Hot, Color, Violet, Crimson, Viridian	
Reticle Types	8 (7 Static, 1 DIY)	
Reticle Colors	Black Red, Black Green, White Red, White Green, Black White, White Black, Red, Green, Yellow	
Mounting System	None	
P.I.P.	Yes	
Rangefinder	Integrated 1,300 yd LRF	
Eye Relief	50 mm	
Diopter Range	-5 to +5	
Electronics		
Onboard Recording	Video, Recoil-Activated Video, and Image	
Onboard Storage	32 GB	
Wireless Connectivity	Image and Video via App.	
Data/Power Connector	USB-C	
Power Supply	USB-C External, Built-In Battery Pack, 18650 Batteries ×2	
Max. Operating Time	12 Hours	
Start Up Time	<10 Seconds, Instant from Standby	
Physical		
Size	14.8″ × 3.6″ × 3.0″	
Weight	30.7 Oz	31.0 Oz
Environmental/Warranty		
Warranty	5 Years	
Housing Material	T-6063 Aluminum	
Ingress Protection	IP67	
Operation Temperature	-4°F~122°F	
Max. Recoil	1000 g/s² (300 Win./7mm Mag)	

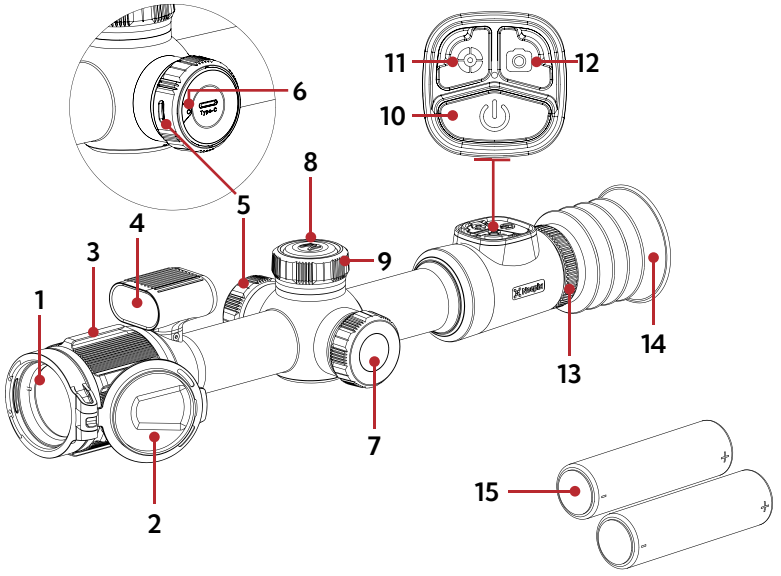
4. Accessories

The NOCPIX BOLT Series thermal imaging scope ships with everything you need to get out and hunt.

- Objective Lens Cap
- Standard Rubber Eyeguard
- 18650 Battery ×2
- Battery Charger
- USB-C Cable for Data/Video
- 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
2 Objective Lens Cap
3 Objective Lens Focus Ring
4 Integrated Laser Rangefinder
5 USB-C Port
6 USB-C Status Indicator LED
7 18650 Battery Compartment / Cover
8 Menu Button
9 Tactile Control Turret
10 Power Button
11 Rangefinder Button
12 Photo Button
13 Eyepiece / Diopter Adjustment Ring
14 Eyeguard
15 18650 Batteries

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	Manually perform a non-uniformity correction	Power off the device / enter standby mode
Standby mode	Exit standby mode	——
Main menu	Return to the previous menu without saving changes	Power off the device

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 to previous	Save and return to the home screen
Quick menu	Toggle through the menu options	Exit the quick menu
Reticle zeroing and pixel defect correction interface	Select the axis of movement (X and Y)	——

Rangefinder Button		
Current Screen / Menu	**Short Press**	**Long Press**
Home screen	Take a single rangefinding measurement	Turn continuous ranging mode on or off

Photo Button		
Current Screen / Menu	**Short Press**	**Long Press**
Home screen	Take a photo	Start / stop recording video

Control Turret	
Current Screen / Menu	**Rotate**
Home screen	If PIP is OFF: rotate to adjust the digital zoom level of the observed image. If PIP is ON: rotate to adjust the digital zoom for the PIP image.
Quick menu	Switch menu options; move menu cursor **Clockwise:** Move left / down **Counterclockwise:** Move right / up
Main menu	
Reticle zeroing and pixel defect correction interface	Move the reticle position. **Clockwise:** Move left / down **Counterclockwise:** Move right / up

7. Quick Start Guide

Step 1: Prepare to Use the BOLT 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 built-in battery pack before using the BOLT Series for the first time. See **Charging the Built-in Battery Pack** on page 9.
4. Install the eyeguard **(14)**.

Step 2: Turn On the BOLT Series

1. Open the objective lens cap **(2)**.
2. Long press the **Power ⏻ Button** for 2 seconds to power on the BOLT Series.
3. Rotate the eyepiece diopter adjustment ring **(13)** 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 17):

1. Set the color palette to white hot, black hot, red hot, color, violet, crimson, or viridian.
2. Select a screen brightness level, from 1–10.
3. Select an image contrast level, from 1–10.
4. Select an image sharpness level, from 1–10.
5. Select a ballistic distance. This setting can be customized from 0 to 999 in the App.

Step 4: Adjust Device Settings

1. Long press the **Menu Ⓜ Button** to enter the main menu (see **Main Menu Options and Descriptions** on page 26 for detailed instructions) to:
   a. Turn on Ultra-Clear mode.
   b. Set the non-uniformity correction (NUC) mode to automatic, manual, or background.
   c. Turn on the PIP window.
   d. Set the image hue to warm or cool.
   e. Turn on recoil activated video.
   f. Turn on the microphone.
   g. Set the date and time.
   h. Set the units of measure to yards or meters.
2. Rotate the **Control Turret** to adjust the stepped digital zoom level. The real time magnification appears in the status bar.

Step 5: Set Up the Reticle and Zero the BOLT Series

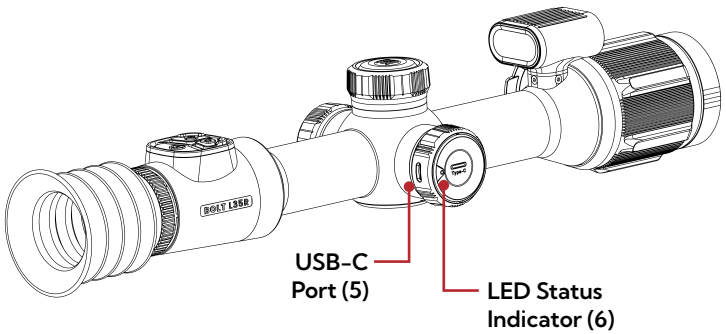
1. Adjust the reticle settings (see **Main Menu > Reticle&Zeroing** on page 27.
   a. Set the zeroing profile to 1, 2, 3, 4, or 5.
   b. Set the reticle type to 1–7. A custom reticle is also available for purchase in the NOCPIX App.
   c. Set the reticle color to black red, black green, white red, white green, black white, white black, red, green, or yellow.
   d. Set the reticle brightness from 1–6.
2. Zero the rifle scope. See **Zeroing the BOLT Series** on page 19.
   a. Select, or customize, a zero distance that matches the target distance.
   b. Zero the reticle.

8. Charging the Built-in Battery Pack

The BOLT Series has a dual power supply: a built-in rechargeable lithium-ion battery pack and it comes with two optional auxiliary 18650 batteries. The BOLT Series supports a run time of up to 12 hours when the built-in battery pack is paired with an 18650 auxiliary battery. The built-in battery pack is not removable or replaceable. Please ensure the battery pack is fully charged before the first use.

To charge the battery pack:

1. Connect the USB-C end of the data cable to the USB-C port **(5)**.
2. Connect the standard USB end of the data cable to:
   a. Any standard USB 3.0 port on a laptop or computer; **OR**
   b. The included 5V–2A USB power adapter, and plug the power adapter into an electrical outlet.
3. While charging:
   a. The LED status indicator **(16)** next to the USB-C port will turn red. When the indicator LED turns green, the battery is fully charged.
   b. The battery charging icon will replace the battery status icon in the status bar.



4. When fully charged, disconnect the data cable from the USB-C port. Do not overcharge.

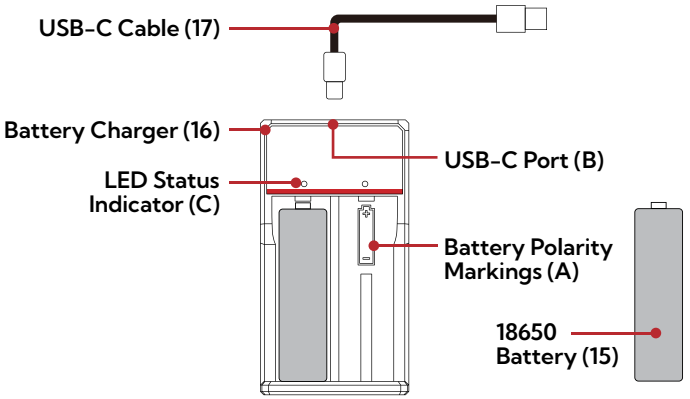
WARNING: Never charge the battery pack with a USB adapter that is greater than 5V–2A.

NOTES:

- You may charge and operate the BOLT Series at the same time.
- When the battery status icon turns red and only one bar remains, charge the battery right away to avoid over-discharge and a reduction in battery capacity or service life.
- Only the built-in battery pack will be charged while connected via the USB-C port.

Charging the 18650 Batteries

1. Insert an 18650 battery **(15)** into the battery charger **(16)** following the polarity markings **(A)** inside the battery slot.
2. Connect the USB-C cable **(17)** to the USB-C port **(B)** on the battery charger.
3. Connect the standard USB end of the data cable to:
   a. Any standard USB 3.0 port on a laptop or computer; **OR**
   b. The included 5V–2A USB power adapter, and plug the power adapter into an electrical outlet.
4. During charging, the LED status indicator **(C)** on the battery charger will be solid red.



5. When the battery is fully charged, the LED status indicator will turn solid green. Remove the battery from the battery charger. Do not overcharge.

NOTE: When the LED status indicator flashes red, the battery charger is connected to a power source but no battery is installed.

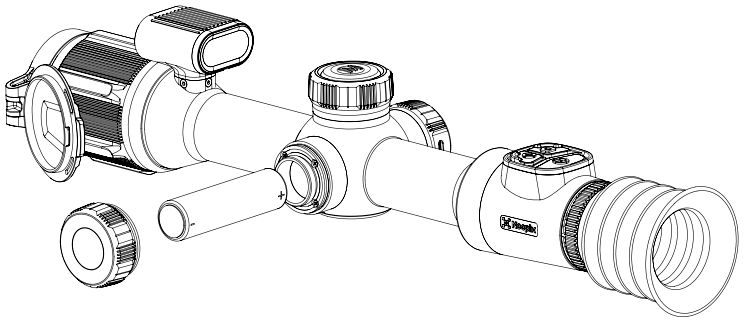
WARNING: Never use the battery charger with a USB power adapter that is greater than 5V–2A.

9. Installing an 18650 Battery

The battery compartment allows the run time of the BOLT Series to be expanded up to 12 hours with the use of an optional 18650 battery. Ensure the 18650 battery is fully charged before installing it in the BOLT Series.

To install an 18650 battery:

1. Remove the battery cover by turning it counterclockwise.
2. Insert an 18650 battery into the battery compartment following the polarity markings inside the compartment. The positive **[+]** battery terminal faces in and the negative **[-]** terminal faces out.
3. Replace the battery cover.



WARNING: Only 18650 batteries may be used with the BOLT Series. Using any other battery type may cause irreparable damage to the rifle scope or cause a fire. Any damage from using an improper battery will not be covered by warranty.

WARNING: Only use the factory-supplied battery charger to charge the included 18650 batteries. The use of any other charger may irreparably damage the battery or the charger and may cause a fire. Any damage from using an improper battery charger will not be covered by warranty.

10. Switching the Battery Power Supply

The BOLT Series dual power supply system works seamlessly to power the device:

- When the 18650 battery is installed and fully charged, it will be the preferred power source.
- If the power of the 18650 battery is low, or the 18650 battery is removed, the BOLT Series will automatically switch to the built-in battery pack as its primary power supply. Operation will not be interrupted during this time.

- When the BOLT Series is in use, the 18650 battery may be replaced at any time. During replacement, power will switch to the internal battery pack and then switch back to the new 18650 battery after replacement automatically.
- When the BOLT Series is connected via USB-C, the device will switch to the external power supply automatically, and the battery charging icon will replace the battery status icon in the status bar.

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 BOLT 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 **(17)** to the USB-C port **(5)**.
2. Connect the other end of the USB-C cable to the external power supply. The BOLT Series will automatically switch to using the external power supply for power and it will begin charging the internal battery pack.
3. The battery charging icon will replace the battery status icon for the built-in battery in the status bar.
4. When the external power supply is turned off, the BOLT Series will switch to the 18650 battery, if installed, without turning off.
5. If no 18650 battery is installed or the 18650 battery level is low, the BOLT Series will switch to the built-in battery pack, instead of shutting down.

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

13. Operating Instructions

WARNING!
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 BOLT Series is operated via four control buttons and a large metal tactile control turret. The large, easy-to-find control turret provides audible and tactile feedback when twisted. 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 **(2)**.
2. Long press the **Power ⏻ Button** for 2 seconds to turn on the BOLT Series. The Nocpix logo will appear.
3. To determine the current charge of the built-in battery pack, check the battery status indicator in the lower-right corner of the screen.

Powering Off and Entering Standby

To power off the BOLT Series:

1. Press and hold the **Power ⏻ Button**. The shutdown screen will open, showing a 3-second countdown.
2. Continue holding the **Power ⏻ Button** until the countdown completes.
3. "Data saving..." appears on the screen and the BOLT Series will shut down automatically after the data finishes saving.

NOTE: Releasing the **Power ⏻ Button** at any time before the 3-second countdown reaches zero will stop the shutdown process and the rifle scope will enter standby mode. Short press the **Power ⏻ Button** to exit standby.

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 to conserve the battery life of the rifle scope. When in standby mode, short press the **Power ⏻ Button** to exit standby and return to the home screen.

Manually Enter Standby Mode

The user may enter standby mode manually at any time.

1. From the home screen, long press the **Power ⏻ Button** to bring up the shutdown screen.
2. Release the **Power ⏻ Button** before the 3-second countdown finishes to enter standby.
3. Short press the **Power ⏻ Button** to exit standby.

NOTE: The rifle scope will shut down automatically after 30 minutes in standby.

Automatically Enter Standby Mode

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

1. In the main menu, turn automatic standby on. When turned on, the BOLT Series will automatically enter standby after about any 10 seconds of inactivity. See **Main Menu > Standby** on page 41.
2. Press the **Power ⏻ Button** to exit standby.

AUTOMATIC STANDBY NOTES:

- When automatic standby is turned **on**:
  - The BOLT Series will enter standby 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 BOLT Series will not enter standby mode while it is in a level (horizontal) position.
- When auto standby is turned **off**, the rifle scope will operate until the batteries run out.

Adjusting the Focus

ADJUSTING THE DIOPTER/EYEPIECE

1. Rotate the eyepiece diopter adjustment ring **(13)** at the rear of the BOLT Series right or left until the user interface is clear.
2. Look closely to ensure all icons, the status bars, 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 adjustment, there is no need to rotate the eyepiece adjustment ring **(13)** for long distances or other conditions.
- If necessary during standard use, the objective lens focus ring **(3)** 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 ring **(3)** 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 of the screen shows information on the operating status of the BOLT Series.

1. **Total Magnification:** Shows the total magnification, 3.5× to 14×.
2. **Ballistic distance:** Shows the selected ballistic distance.
3. **Zeroing Profile Name:** Shows the selected zero profile, Profile 1, 2, 3, 4, or 5. The profile name can be changed in the NOCPIX App.
4. **Ultra-Clear:** Shows the Ultra-Clear status, on or off .
5. **Microphone:** Shows the microphone status, on or off .
6. **Wi-Fi:** Shows the Wi-Fi status, on or off or the N-Link status, on or paired .
7. **Time:** Shows the current time in 24-hour format.
8. **Built-in Battery Status Indicator:** Shows the status of the built-in battery pack. The icon fill level indicates the remaining battery charge. When the BOLT Series is receiving power from the battery pack, the battery indicator is light gray color; when inactive, the battery indicator is dark gray. When the BOLT Series is connected to an external power source, the battery charging icon will replace the battery status icon for the built-in battery.
9. **18650 Battery Status Indicator:** Shows the status of the rechargeable 18650 battery. The icon fill level indicates the remaining battery charge. When the BOLT Series is receiving power from the 18650 battery, the battery indicator is light gray color; when inactive, the battery indicator is dark gray.

Using the Quick Menu

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

- From the home screen, short press the **Menu Ⓜ Button** to enter the quick menu.
- Rotate the **Control Turret** to switch between the quick menu items, described below. The selected menu item turns blue.
  - **(Color Palette):** Short press the **Menu Ⓜ Button** to set the color palette to white hot, black hot, red hot, color, violet, crimson, or viridian.
  - **(Screen Brightness):** Short press the **Menu Ⓜ Button** to select a screen brightness level, from 1–10.
  - **(Image Contrast):** Short press the **Menu Ⓜ Button** to select an image contrast level, from 1–10.
  - **(Image Sharpness):** Short press the **Menu Ⓜ Button** to select an image sharpness level, from 1–10.
  - **(Ballistic Distance):** Select a ballistic distance. This setting can be customized from 0 to 999 in the App.
- Long press the **Menu Ⓜ Button** to save any changes and return to the home screen.
- Short press the **Power ⏻ Button** to return to the home screen without saving.
- After 7 seconds of inactivity, the system will automatically return to the home screen.

Navigating the Main Menu

- From the home screen, long press the **Menu Ⓜ Button** to enter the main menu.
- Rotate the **Control Turret** to switch between the menu items.
- A blue menu icon indicates the cursor position.
- 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 level without saving.
- After 7 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. Zeroing the BOLT Series

The BOLT Series features a "freeze" zeroing method. To zero the BOLT Series:

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. Adjust the image and device settings following the steps in the Quick Start Guide on page 7, if you have not done so already.
4. Select the zeroing profile, 1, 2, 3, 4, or 5. The name of the zeroing profile can be changed in the App.
5. Based on the distance to the target you wish to zero, select a preset zero distance, OR customize one of the preset zero distances to match. The BOLT Series supports custom zeroing distances of 1 to 999 meters or 1 to 999 yards.
6. Ensure a stable platform and natural shooting position is achieved behind the rifle.
7. Load ammunition, aim, and take one good shot at the target.
8. Make your rifle safe and observe the location of impact on the target.
9. If the point of impact does not match the point of aim (the center of the reticle), adjust the X/Y position of the reticle.
10. In the submenu for the selected zero distance, center the reticle on the aiming- point and freeze the image view.
    a. Rotate the **Control Turret** to move to the image freeze ❄ icon.
    b. Short press the **Menu Ⓜ Button** to freeze the image.
11. Select the axis (X or Y) along which to move the reticle:
    a. Rotate the **Control Turret** to move between **X** and **Y**.
    b. Short press the **Menu Ⓜ Button** to select the desired axis. Adjust the X/Y position of the reticle until the reticle matches the point of impact.
    c. Rotate the **Control Turret** counterclockwise to move in the positive direction: X= Right and Y= Up.
    d. Rotate the **Control Turret** clockwise to move in the negative direction: X= Left and Y= Down.
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.

For detailed Zeroing instructions, please see **Reticle&Zeroing Menu > Reticle Zeroing** on page 27.

15. 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 BOLT Series is powered on.

The BOLT Series has three NUC modes, automatic, manual, and background.

Automatic Mode

In automatic mode, the BOLT Series will perform a NUC automatically according to the internal software algorithm. There is no need to close the objective lens cap as the BOLT Series's internal shutter covers the sensor.

NOTE: A manual NUC (see below) may be performed at any time while in Automatic mode.

Manual Mode

In manual mode, the user independently determines the need to perform a NUC based on the quality of the observed image. It is not necessary to close the objective lens cap during a manual NUC, as the internal shutter covers the sensor.

To perform a manual NUC while in manual or automatic mode:

1. From the home screen, short press the **Power ⏻ Button**.
2. A manual NUC is performed instantly.

Background Mode

In background mode, the user independently determines the need to perform a background NUC based on the quality of the observed image. A background NUC uses less power than an automatic or manual NUC because it does not use the imager shutter to cover the sensor; instead, the user must close the lens cap.

To perform a background NUC while in background mode:

1. Close the objective lens cap **(2)**.
2. From the home screen, short press the **Power ⏻ Button**.
3. A prompt to close the lens cap appears onscreen. The background 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.

16. Photography and Video Recording

The BOLT Series 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 using the photo and video functions. See **Settings Menu > Date and Time** on page 44. 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 **Photo 📷 Button**.
2. 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 less than 50 MB of 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 > Microphone** on page 41.
2. From the home screen, long press the **Photo 📷 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 **Photo 📷 Button** to take a photo.
5. Long press the **Photo 📷 Button** to stop and save the video recording.

Recoil Activated Video

When recoil activated video (RAV) is turned on, the rifle scope will begin recording 5 seconds before each shot and continue recording for 3 minutes. See **Main Menu > Recoil Activated Video** on page 40 for instructions.

NOTES:

- The video recording timer, in HH:MM:SS (hour, minute, second) format, will appear in the upper-right corner of the screen when RAV is recording.
- 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 VIDEO_HHMMSS.mp4.
  - RAV videos are saved as RAV_HHMMSS.mp4.
  - HHMMSS is hour, minute, and 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.

17. Accessing the Internal Memory

When the BOLT 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 BOLT Series to your computer via the included data cable **(17)**.
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 **BOLT** to access the built-in memory. Recorded photos and videos are separated into folders by date.
6. Select the desired files or folders to copy or delete.

18. Using The NOCPIX App

The BOLT 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 BOLT Series to Wi-Fi:
   a. Turn on the Wi-Fi. See **Main Menu > Wi-Fi** on page 37 for instructions.
   b. Open the App and press the **ViewFinder icon** on the home screen. Then, click the **Connect Device WiFi button**.
   c. On the mobile device, go to **Settings > Wi-Fi**.
   d. Select the BOLT Series from the list of Wi-Fi networks. It will appear in the list as "BOLT XXXX_YYYYYYY" where XXXX is the model number and YYYYYYY is the device serial number.
   e. Enter the Wi-Fi password and tap the **Join button**. The default password is 12345678.
3. Operate the BOLT 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 BOLT Series firmware.
   f. Rename the zeroing profiles.
   g. Adjust ballistic menu parameters.

NOTE: When a factory reset is performed, the Wi-Fi SSID and password are reset to the defaults, BOLT XXXX_YYYYYYY and 12345678. See **Settings Menu > Factory Reset** on page 47.

19. Integrated Laser Rangefinder

The BOLT Series is equipped with an integrated, precision laser rangefinder which allows the user to measure the distance to objects up to 1300 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:** Shows the selected LRF reticle in place of the standard reticle. See LRF reticle section.
2. **Mode:** The selected rangefinding mode, SGL (single) or CONT (continuous) appears in the upper-right corner.
3. **Rangefinding Measurement:** The target distance appears in the upper-right corner.

To take a single rangefinding measurement:

4. Locate the target, and short press the **Rangefinder Button** to take a rangefinding measurement.

To use the laser rangefinder in continuous rangefinding mode:

1. Long press the **Rangefinder Button** to turn on the laser rangefinder in continuous ranging 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. Long press the **Rangefinder Button** to turn off the laser rangefinder.

ACCURACY NOTES:

- The LRF reticle type, color, and brightness can be customized in the menu, see **Main Menu > Reticle&Zeroing** on page 27.
- By default, single rangefinding data is shown on the screen for 1 second. See **Reticle&Zeroing Menu > LRF Data** on page 35 to change this setting to "on" to make the single rangefinding measurement stay on the screen until the next measurement is taken.

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.

20. Digital Zoom

The BOLT Series uses stepped digital zoom and can quickly increase the base magnification by enlarging the image from 1 to 4 times digitally.

To use digital zoom:

1. Rotate the **Control Turret** to adjust the digital zoom level.
2. The total magnification is shown in the status bar.

NOTE: If PIP is turned on, rotating the **Control Turret** will adjust the digital zoom level for the PIP image.

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:** Ultra-Clear, Reticle&Zeroing, Laser Rangefinder, PIP, Wi-Fi, Calibration, Gallery, Image Hue, Recoil Activated Video, Standby, Microphone, Pixel Defect Correction, Settings.
  - **Reticle&Zeroing Menu:** Zeroing Profile, Reticle Zeroing, Reticle Type, Reticle Color, Reticle Brightness, Ballistic Calculation, SPOA Type, SPOA Color, Ballistic Calculation Units, Parameter Setting.
  - **Settings Menu:** Date, Time, Languages, Unit, Factory Reset, Info.

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

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. Rotate the **Control Turret** to select the Ultra-Clear menu item.
3. Short press the **Menu** Ⓜ **Button** to turn Ultra-Clear on or off. The Ultra-Clear status, on or off, appears in the status bar.
4. Long press the **Menu** Ⓜ **Button** to return to the home screen.

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

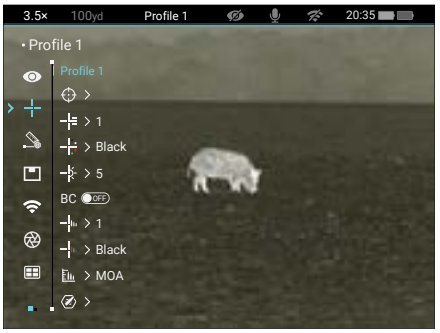
Reticle&Zeroing

Adjust the reticle, zeroing, and ballistic calculation settings

1. Long press the **Menu** Ⓜ **Button** to enter the main menu.
2. Rotate the **Control Turret** to select the reticle&zeroing menu item.
3. Short press the **Menu** Ⓜ **Button** to enter the submenu.

RETICLE & ZEROING > ZEROING PROFILE

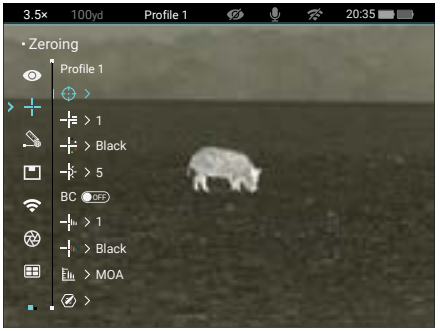
Select the zeroing profile



1. In the reticle & zeroing submenu, rotate the **Control Turret** to select the zeroing profile menu item.
2. Short press the **Menu** Ⓜ **Button** to enter the zeroing profile submenu.
3. Rotate the **Control Turret** to move through profile options, 1, 2, 3, 4, or 5.
4. Long press the **Menu** Ⓜ **Button** to confirm the selection and return to the home screen.

RETICLE & ZEROING > RETICLE ZEROING

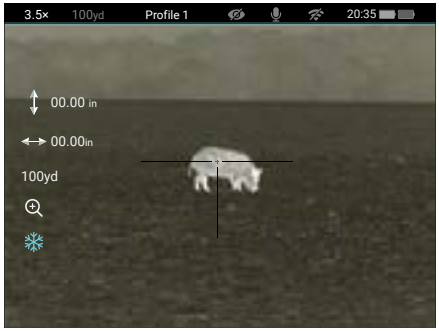
Adjust the reticle position for a specific zero distance



In the reticle zeroing interface, the X/Y position of the reticle may be adjusted to match the point of impact.

1. In the reticle & zeroing submenu, rotate the **Control Turret** to select the reticle zeroing menu item and enter the reticle zeroing interface.

2. The interface has the following features:



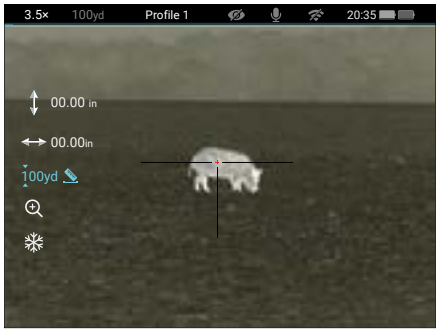
   1 **Y-Axis ↕ Icon:** Vertical point of impact change (in cm or inches).
   2 **X-Axis ↔ Icon:** Horizontal point of impact change (in cm or inches).
   3 **Zero Distance:** Select to customize the zero distance.
   4 **Zoom ⊕ Icon:** Select to change the digital zoom level.
   5 **Freeze ❄ Icon:** Select to freeze the image. When frozen, the icon turns from white to blue. Select a second time to unfreeze the image.
   6 **Reticle:** Shows the new reticle position.
   7 **Red Cursor:** Indicates the center of the original reticle position.

3. Center the reticle on the aiming point and freeze the image view:
   a. Rotate the **Control Turret** to move to the image freeze ❄ icon.
   b. Short press the **Menu Ⓜ Button** to freeze the image. The freeze icon will turn from white to blue. Short press again to unfreeze.

4. Adjust the digital zoom level, as needed:

   a. Rotate the **Control Turret** to move to the zoom ⊕ icon.
   b. Short press the **Menu Ⓜ Button** to toggle through the digital zoom options, 1× to 4×. The selected real-time amplification appears in the status bar.

5. Customize the zero distance, as needed:



   a. Rotate the **Control Turret** to move to the zero distance.
   b. Short press the **Menu Ⓜ Button** to begin customizing the zero distance.
   c. Rotate the **Control Turret** to increase or decrease the value of the selected digit from 0–9.
   d. Short press the **Menu Ⓜ Button** to switch between the three digits. The two blue arrows move to indicate the selected digit.
   e. Long press the **Menu Ⓜ Button** to save the custom zero distance, and now it returns you to the main menu **OR;**
   f. Short press the **Power ⏻ Button** to deselect the zero distance without saving changes.

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

   a. Rotate the **Control Turret** to move between **X** and **Y**. The axis icon will turn from white to blue to mark the cursor location.
   b. Short press the **Menu Ⓜ Button** to select the desired axis. The selected axis will begin flashing.

7. Adjust the X/Y position of the reticle until the reticle matches the point of impact.
   a. **X** (horizontal) is the windage and **Y** (vertical) is the elevation.
   b. Upon moving the reticle, a red cursor appears onscreen, representing the original position of the reticle.
   c. Rotate the **Control Turret** counterclockwise to move in the positive direction: X= Right and Y= Up.
   d. Rotate the **Control Turret** clockwise to move in the negative direction: X= Left and Y= Down.
   e. Rotate one click to move the cursor in the corresponding direction by 1 pixel. One full rotation (20 clicks) is equivalent to 20 pixels.

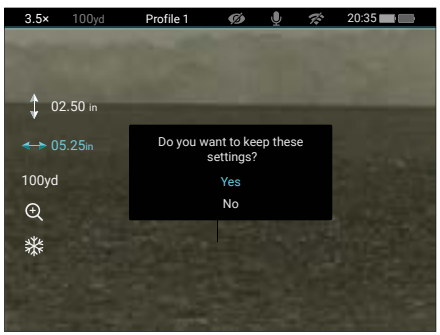
f. The reticle position is adjusted as follows:

MODEL	DISTANCE (YARDS)	ONE CLICK (INCHES)
BOLT P25	50	0.55
	100	1.10
	200	2.35
BOLT L35	50	0.59
	100	1.18
	200	2.35

h. The distance of your X/Y adjustments will update automatically if you change your zero distance, for example from 100 to 200 yards.

8. Short press the **Menu** Ⓜ **Button** to save the position for the selected axis and deselect it. The deselected axis will change from blue to white.

9. Repeat steps 6 and 7 to adjust the reticle position along the second axis if needed.
10. Long press the **Menu** Ⓜ **Button** to save the reticle position for both axes and return to the home screen.



11. A popup window shows the message "Do you want to keep these settings?" and two options, Yes and No. Yes is selected by default.
12. Short press the **Menu** Ⓜ **Button** to select **Yes** to save the new reticle position and exit to the home screen. The screen will show "Zeroing saving" ; **OR**
13. Rotate the **Control Turret** to move to **No** and short press the **Menu** Ⓜ **Button** to exit to the main menu without correcting any defective pixels.
14. 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.

RETICLE & ZEROING MENU > RETICLE TYPE

Select the reticle type

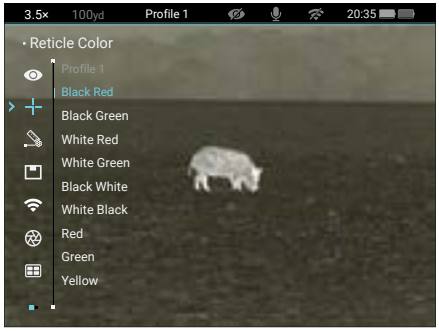
1. In the reticle & zeroing submenu, rotate the **Control Turret** to select the reticle type menu item.
2. Short press the **Menu** Ⓜ **Button** to enter the submenu.
3. Rotate the **Control Turret** to move through reticle type options, 1–7 (see below). The reticle changes as the cursor moves through the reticle types. A custom reticle is also available for purchase in the NOCPIX App.
4. Long press the **Menu** Ⓜ **Button** to confirm the selection and return to the home screen.

Reticle Types

1 2 3 4 5 6 7

RETICLE & ZEROING > RETICLE COLOR

Select the reticle color



1. In the reticle & zeroing submenu, rotate the **Control Turret** to select the reticle color menu item.
2. Short press the **Menu** Ⓜ **Button** to enter the submenu.
3. Rotate the **Control Turret** to move through reticle color options, black red, black green, white red, white green, black white, white black, red, green, yellow. The reticle color changes as the cursor moves through the color options.
4. Long press the **Menu** Ⓜ **Button** to confirm the selection and return to the home screen.

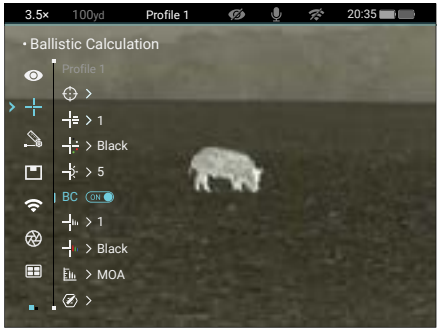
RETICLE & ZEROING > RETICLE BRIGHTNESS

Set the reticle brightness

1. In the reticle & zeroing submenu, rotate the **Control Turret** to select the reticle brightness menu item.
2. Short press the **Menu** Ⓜ **Button** to enter the submenu.
3. Rotate the **Control Turret** to select a brightness level, from 1 to 6. The reticle color changes as the cursor moves through the brightness options.
4. Long press the **Menu** Ⓜ **Button** to confirm the selection and return to the home screen.

RETICLE & ZEROING > BALLISTIC CALCULATION BC

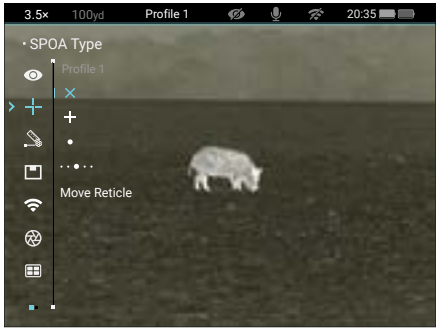
Turn ballistic calculation on or off



1. In the reticle & zeroing submenu, rotate the **Control Turret** to select the ballistic calculation BC menu item.
2. Short press the **Menu** Ⓜ **Button** to turn the ballistic calculation on or off.
3. Long press the **Menu** Ⓜ **Button** to confirm the selection and return to the home screen.

RETICLE & ZEROING > SPOA TYPE

Set the suggested point of aim (SPOA)

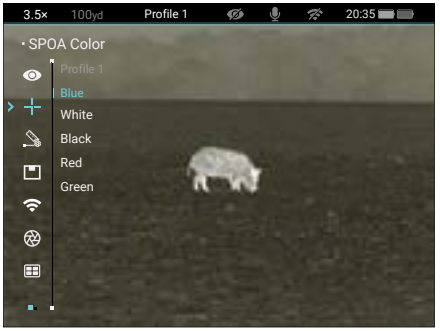


1. In the reticle & zeroing submenu, rotate the **Control Turret** to select the SPOA type menu item.
2. Short press the **Menu** Ⓜ **Button** to enter the submenu.
3. Rotate the **Control Turret** to move through the options, "×", "+", "●" , "• •●• •", and Move Reticle.
4. Long press the **Menu** Ⓜ **Button** to confirm the selection and return to the home screen.

NOTE: When SPOA is set to Move Reticle, the BOLT will automatically move the original reticle to the suggested point of aim.

RETICLE & ZEROING > SPOA COLOR

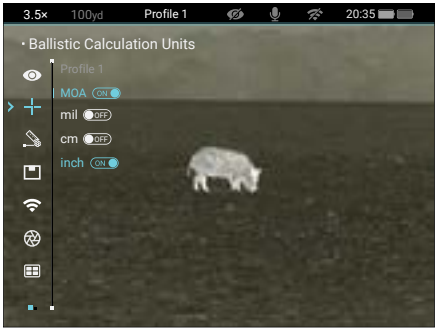
Set the SPOA color



1. In the reticle & zeroing submenu,rotate the **Control Turret** to select the SPOA color menu item.
2. Short press the **Menu** Ⓜ **Button** to enter the submenu.
3. Rotate the **Control Turret** to move through the options, blue, green, red, white, and black.
4. Long press the **Menu** Ⓜ **Button** to confirm the selection and return to the home screen.

RETICLE & ZEROING > BALLISTIC CALCULATION UNITS

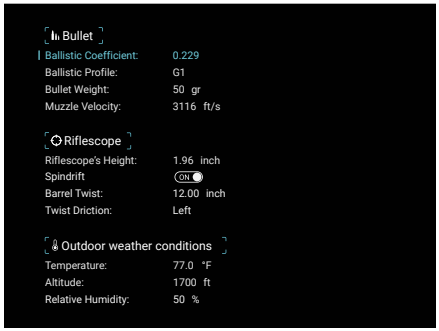
Set the ballistic calculation units of measurement



1. In the reticle & zeroing submenu, rotate the **Control Turret** to select the ballistic units menu item.
2. Short press the **Menu** Ⓜ **Button** to enter the submenu.
3. Rotate the **Control Turret** to choose the angular units: MOA or mil, and choose the linear units: cm or inches.
4. Short press the **Menu** Ⓜ **Button** to toggle the selected units on or off.
5. Long press the **Menu** Ⓜ **Button** to confirm the selection and return to the home screen.

RETICLE & ZEROING > PARAMETER SETTING

Set parameters for bullets, rifles, and the environment



1. In the reticle & zeroing submenu, rotate the **Control Turret** to select the parameter setting menu item.
2. Short press the **Menu Ⓜ Button** to enter the submenu.
3. Rotate the **Control Turret** to move through the parameters and short press the **Menu Ⓜ Button** to begin editing a parameter.
4. Rotate the **Control Turret** to move through the parameter options.
5. Long press the **Menu Ⓜ Button** to confirm the selection and return to the home screen.

NOTE: Parameters can be adjusted in the NOCPIX App.

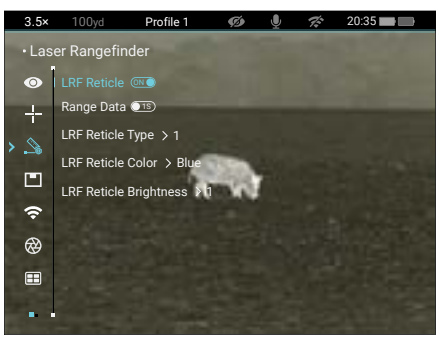
Laser Rangefinder

Customize LRF options

1. Long press the **Menu Ⓜ Button** to enter the main menu.
2. Rotate the **Control Turret** to select the laser rangefinder menu item.
3. Short press the **Menu Ⓜ Button** to enter the submenu.

LASER RANGEFINDER > LRF RETICLE

Turn LRF reticle on or off



1. In the laser rangefinder submenu, rotate the **Control Turret** to select the LRF reticle menu item.
2. Short press the **Menu Ⓜ Button** to toggle the reticle on or off.
3. Long press the **Menu Ⓜ Button** to confirm the selection and return to the home screen.

LASER RANGEFINDER > LRF DATA

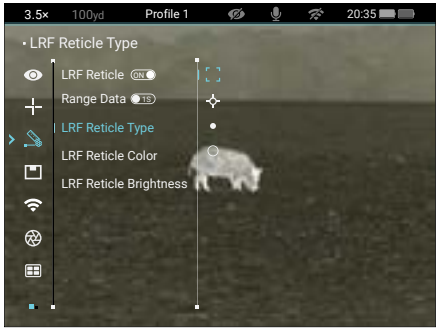
Set how long single rangefinding data stays on the screen

By default, single rangefinding data is shown on the screen for 1 second. When "on" is selected, the single rangefinding measurement will stay on the screen until the next measurement is taken.

1. In the laser rangefinder submenu, rotate the **Control Turret** to select the LRF data menu item.
2. Short press the **Menu Ⓜ Button** to toggle between 1 second and on.
3. Long press the **Menu Ⓜ Button** to confirm the selection and return to the home screen.

LASER RANGEFINDER > LRF RETICLE TYPE

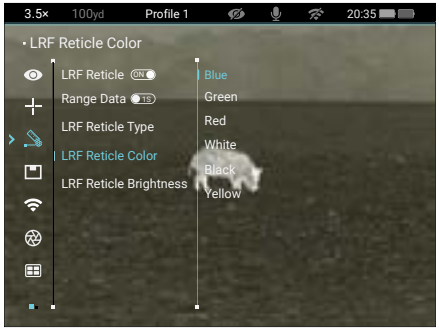
Select the LRF reticle type



1. In the laser rangefinder submenu, rotate the **Control Turret** to select the LRF reticle type menu item.
2. Short press the **Menu Ⓜ Button** to enter the submenu.
3. Rotate the **Control Turret** to move through LRF reticle type options, "[ ]", "⌖", "●", and "O".
4. Long press the **Menu Ⓜ Button** to confirm the selection and return to the home screen.

LASER RANGEFINDER > LRF RETICLE COLOR

Select the LRF reticle color



1. In the laser rangefinder submenu, rotate the **Control Turret** to select the LRF reticle color menu item.
2. Short press the **Menu Ⓜ Button** to enter the submenu.
3. Rotate the **Control Turret** to move through color options, blue, green, red, white, black, and yellow.
4. Long press the **Menu Ⓜ Button** to confirm the selection and return to the home screen.

LASER RANGEFINDER > LRF RETICLE BRIGHTNESS

Set the LRF reticle brightness

1. In the laser rangefinder submenu, rotate the **Control Turret** to select the LRF reticle brightness menu item.
2. Short press the **Menu Ⓜ Button** to enter the submenu.
3. Rotate the **Control Turret** to select a brightness level, from 1 to 6.
4. Long press the **Menu Ⓜ Button** to confirm the selection and return to the home screen.

PIP

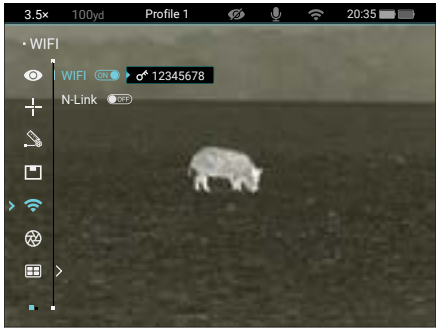
Turn PIP on / off

1. Long press the **Menu Ⓜ Button** to enter the main menu.
2. Rotate the **Control Turret** to select the PIP menu item.
3. Short press the **Menu Ⓜ Button** to turn PIP on or off.
4. Long press the **Menu Ⓜ Button** to return to the home screen.

NOTE: If PIP is turned on, rotating the **Control Turret** will adjust the digital zoom level for the PIP image.

Wi-Fi

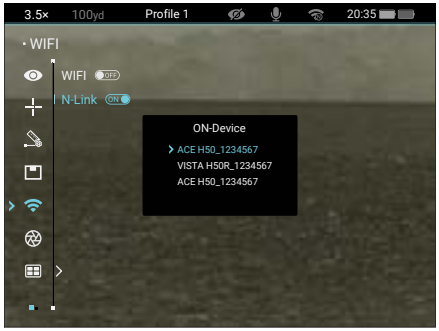
Turn Wi-Fi on / off



Turn on Wi-Fi to operate the BOLT Series via the NOCPIX App. Turn on N-Link to pair the BOLT Series with another NOCPIX device to share single-measurement rangefinding data.

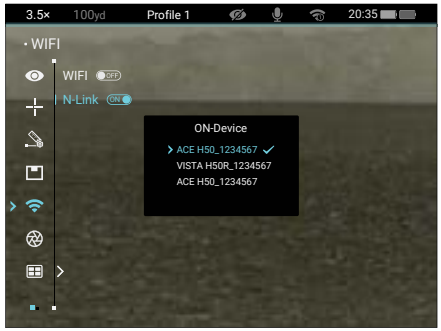
To turn Wi-Fi on or off:

1. Long press the **Menu Ⓜ Button** to enter the main menu.
2. Rotate the **Control Turret** to select the Wi-Fi menu item.
3. Short press the **Menu Ⓜ Button** to turn the Wi-Fi toggle on or off. The Wi-Fi status, on or off, appears in the status bar.



To connect to another device via N-Link:

4. Rotate the **Control Turret** to select the N-Link toggle, and short press the **Menu Ⓜ Button** to turn it on.



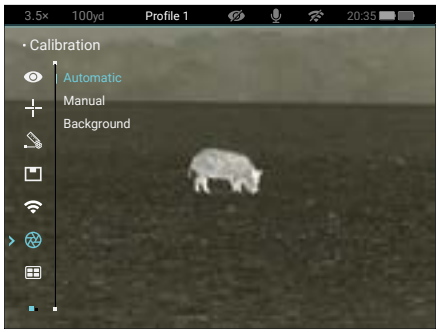
5. When N-Link is turned on, a popup window showing a list of nearby NOCPIX devices will appear, and the N-Link icon will appear in the status bar in place of the Wi-Fi status icon.
6. Rotate the **Control Turret** to move through the list of NOCPIX devices, and short press the **Menu Ⓜ Button** to select a device to pair.
7. When the BOLT is successfully paired to the second NOCPIX device, a checkmark will appear to the left of the device name, and the N-Link pairing icon will appear in the status bar.

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

NOTES:

- Wi-Fi and N-Link cannot be used at the same time; when one is turned on, the other will automatically turn off.
- Only single-measurement rangefinding values can be shared between NOCPIX devices; continuous rangefinding data cannot be shared.

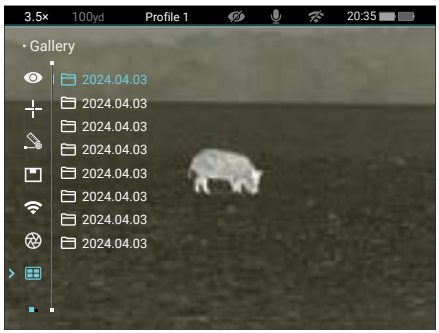
Calibration



Set the non-uniformity correction (NUC) mode to automatic, manual, or background

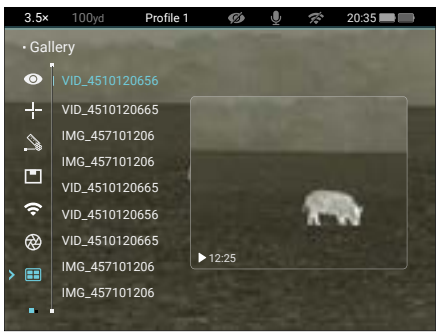
1. Long press the **Menu Ⓜ Button** to enter the main menu.
2. Rotate the **Control Turret** to select the calibration menu item.
3. Short press the **Menu Ⓜ Button** to enter the submenu.
4. Rotate the **Control Turret** to move through the NUC mode options, automatic, manual, and background.
5. Long press the **Menu Ⓜ 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 Ⓜ Button** to enter the main menu.
2. Rotate the **Control Turret** to select the gallery menu item.
3. Short press the **Menu Ⓜ Button** to enter the submenu.
4. Rotate the **Control Turret** to move through the multimedia folders. Folders are named by date in YYYYMMDD format.



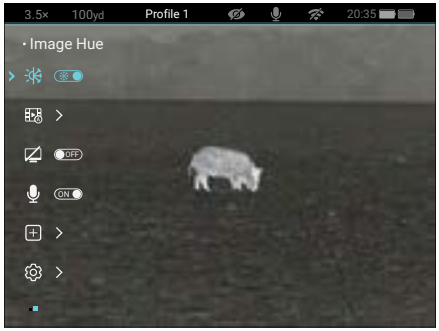
5. Short press the **Menu Ⓜ Button** to select a folder, then rotate the **Control Turret** to navigate through the image and video files. A thumbnail of the selected file appears on the right side of the screen.

6. Short press the **Menu Ⓜ Button** to view an image or video in full screen. When viewing video files, short press the **Menu Ⓜ 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 Ⓜ 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. Rotate the **Control Turret** 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.

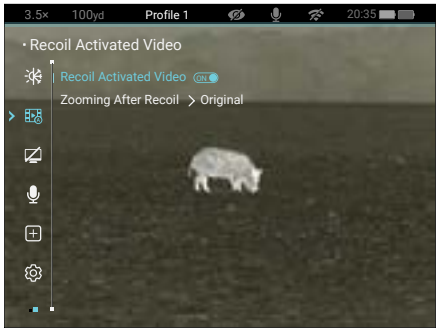


NOTES:

- 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.

Recoil Activated Video

Turn recoil activated video on / off and set the zoom level after an RAV shot is taken.



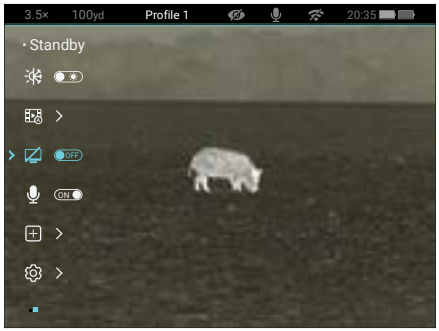
By default, the zooming after recoil option is set to original, and the rifle scope will maintain the selected zoom level after a shot. Choose 3.5× (the base magnification), 7×, or 10.5× to automatically change to the selected zoom level after a shot.

1. Long press the **Menu Ⓜ Button** to enter the main menu.
2. Rotate the **Control Turret** to select the recoil activated video menu item.
3. Short press the **Menu Ⓜ Button** to turn recoil activated video on or off.
4. Rotate the **Control Turret** to select Zooming after Recoil.
5. Short press the **Menu Ⓜ Button** to enter the submenu.
6. Rotate the **Control Turret** to move through the options, original, 3.5×, 7×, and 10.5×.
7. Long press the **Menu Ⓜ Button** to confirm the selection and return to the home screen.

NOTES:

- When recoil activated video (RAV) is turned on, the rifle scope will begin recording 5 seconds before each shot and continue recording for 3 minutes.
- When multiple shots are taken within the same 30-second period, only one video will be taken.
- Long press the **Photo Button** to stop and save the RAV recording at any time.
- When RAV recording is turned on, standard video recording is unavailable.

Standby



Turn on automatic standby mode

1. Long press the **Menu Ⓜ Button** to enter the main menu.
2. Rotate the **Control Turret** to select the standby menu item.
3. Short press the **Menu Ⓜ Button** to turn auto standby on or off When turned on, the BOLT Series will automatically enter standby after about 10 seconds.
4. The standby icon and status, on or off, appear in the status bar.
5. Long press the **Menu Ⓜ Button** to confirm the selection and return to the home screen.

NOTES:

- When auto standby mode is turned on:
  - The rifle scope will enter standby 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 rifle scope will not enter standby mode while it is in a level firing position.
  - Press any button to exit auto standby.
- When auto standby is turned off, the rifle scope will operate until the batteries run out.

Microphone

Turn the microphone on / off

1. Long press the **Menu Ⓜ Button** to enter the main menu.
2. Rotate the **Control Turret** to select the microphone menu item.
3. Short press the **Menu Ⓜ Button** to turn the microphone on or off. The microphone status, on or off, appears in the status bar.
4. Long press the **Menu Ⓜ Button** to return to the home screen.

Pixel Defect Correction ⊞

Select and correct defective pixels

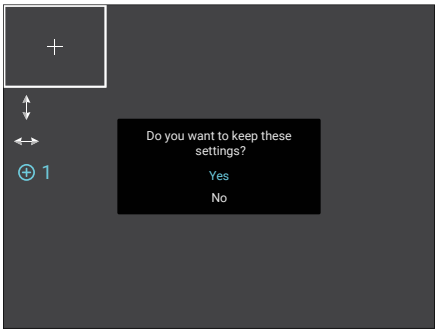
Defective pixels are pixels that do not change correctly compared to the other image pixels—they are either brighter or darker than surrounding pixels. The BOLT Series has a tool that corrects defective pixels on the sensor using its internal software.

1. Long press the **Menu** Ⓜ **Button** to enter the main menu.
2. Rotate the **Control Turret** to select the pixel defect correction ⊞ menu option.
3. Short press the **Menu** Ⓜ **Button** to enter the defective pixel correction interface.
4. The interface has the following features:
   - **1 Cursor:** The pixel cursor appears in the center of the screen in place of the reticle. Move the cursor to the position of the defective pixel.
   - **2 PIP Window:** Shows a close-up view of the cursor location.
   - **3 X-Axis ↔ Icon:** Select to move the pixel cursor horizontally.
   - **4 Y-Axis ↕ Icon:** Select to move the pixel cursor vertically.
   - **5 Add ⊕ Icon:** Select to add a defective pixel to the "to be corrected" list. Shows the number of defective pixels in the list.

To manually select and correct defective pixels:

5. Rotate the **Control Turret** to move between X and Y. The cursor location is marked by a blue icon.
6. Short press the **Menu** Ⓜ **Button** to select the axis of movement, **X** or **Y**. The selected axis begins flashing.
7. Move the cursor along the selected axis to the location of the defective pixel:
   a. Rotate the **Control Turret** counterclockwise to move in the positive direction: X= Right and Y= Up.
   b. Rotate the **Control Turret** clockwise to move in the negative direction: X= Left and Y= Down.
   c. Rotate one click to move the cursor in the corresponding direction by 1 pixel. One full rotation (20 clicks) is equivalent to 20 pixels.
8. Short press the **Menu** Ⓜ **Button** to save the position for the selected axis and deselect it. When deselected, the axis will change from blue to white.

9. Repeat steps 3–6 to move the cursor along the second axis as needed.
10. With the pixel cursor position saved and marking the location of the defective pixel, use the **Control Turret** to move to the add icon ⊕ , then short press the **Menu** Ⓜ **Button** to add the pixel to the "to be corrected" list.
    a. ⊕ 0 will change to ⊕ 1 to indicate that one pixel has been added to the correction list.
11. If the defective pixel has been added in error, short press the **Menu** Ⓜ **Button** a second time from the same X/Y coordinates (do not move the cursor) to remove the pixel from the "to be corrected" list.
12. Repeat the above steps to add additional defective pixels, as needed.
13. When all defective pixels have been added to the list, long press the **Menu** Ⓜ **Button** to confirm changes.



14. A popup window shows the message "Do you want to keep these settings?" and two options, Yes and No. Yes is selected by default.
15. Short press the **Menu** Ⓜ **Button** to select **Yes** to correct the saved list of defective pixels and exit to the home screen.

16. Rotate the **Control Turret** to move to **No** and short press the **Menu Ⓜ Button** to exit to the main menu without correcting any defective pixels.

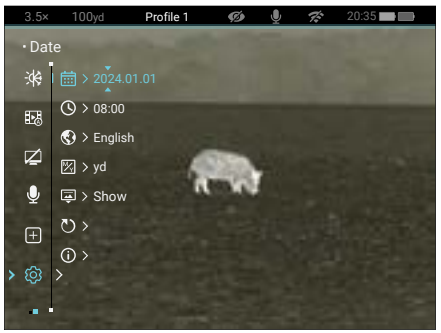
NOTE: The PIP window will move to the bottom of the screen when the cursor moves into the top of the screen.

Settings Menu

Adjust the general settings

1. Long press the **Menu Ⓜ Button** to enter the main menu.
2. Rotate the **Control Turret** to select the settings menu item.
3. Short press the **Menu Ⓜ Button** to enter the settings submenu.

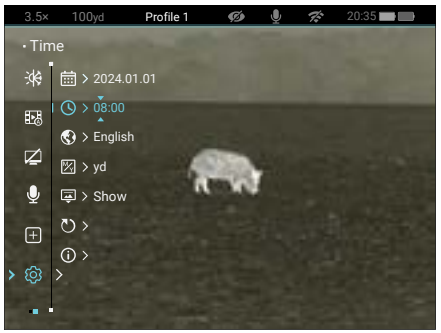
SETTINGS MENU > DATE



Set the date

1. In the settings submenu, rotate the **Control Turret** to select the date menu item.
2. Short press the **Menu Ⓜ Button** to edit the date, displayed in YYYY.MM.DD format.. A blue arrow will appear above and below the year digit.
3. Rotate the **Control Turret** to select the correct value for each digit (year, month, and day).
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 date and return to the home screen.

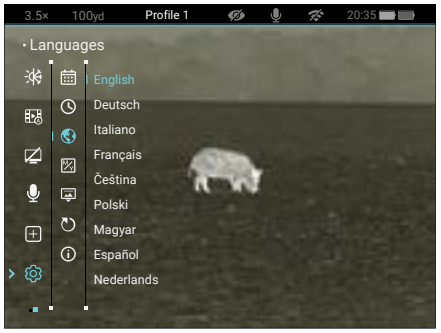
SETTINGS MENU > TIME



Set the time

1. In the settings submenu, rotate the **Control Turret** to select the time menu item.
2. Short press the **Menu Ⓜ Button** to edit the time, displayed in HH:MM, in 24-hour format. A blue arrow will appear above and below the hour digit.
3. Rotate the **Control Turret** 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, rotate the **Control Turret** to select the languages menu item.
2. Short press the **Menu Ⓜ Button** to enter the submenu.
3. Rotate the **Control Turret** to move through the language options.
4. Long press the **Menu Ⓜ Button** to confirm the selection and return to the home screen.

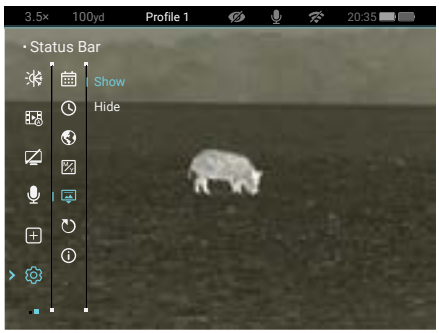
SETTINGS MENU > UNIT

Set the units of measurement

1. In the settings submenu, rotate the **Control Turret** to select the unit menu item.
2. Short press the **Menu** Ⓜ **Button** to enter the submenu.
3. Rotate the **Control Turret** 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 > STATUS BAR

Turn status bar auto-hiding on / off



This function enables all interface information, aside from the reticle, to be automatically hidden for unobstructed image view.

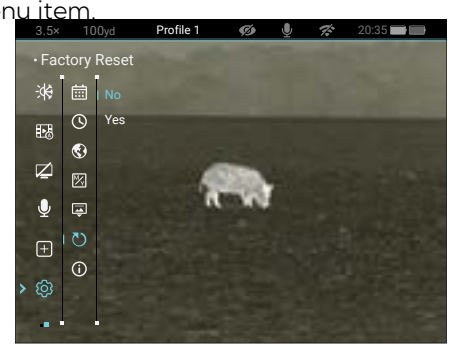
When auto-hide is turned on, the status bar and all interface icons will be automatically hidden after 8 seconds of inactivity. The menu and shortcut buttons are disabled until the entire interface is again displayed. Press any button to show all interface information again.

NOTE: When auto-hide is on and the main menu is open, the menu will hide after 15 seconds of inactivity and the rest of the user interface will hide after an additional 8µseconds.

1. In the settings submenu, rotate the **Control Turret** to select the status bar menu item.
2. Short press the **Menu** Ⓜ **Button** to enter the submenu.
3. Rotate the **Control Turret** to move through the options, show and hide.
4. Long press the **Menu** Ⓜ **Button** to confirm the selection and return to the home screen.

SETTINGS MENU > FACTORY RESET

Restore factory default settings



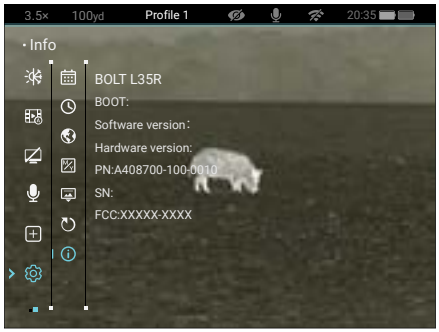
1. In the settings submenu, rotate the **Control Turret** to select the factory reset menu item.
2. Short press the **Menu** Ⓜ **Button** to enter the factory reset submenu.
3. Two options, No and Yes, appear; Yes will restore factory settings and No will cancel the operation.
4. Short press the **Menu** Ⓜ **Button** to select **No** to confirm cancellation of the factory reset and return to the submenu; **OR**
5. Rotate the **Control Turret** to move to **Yes** and short press the **Menu** Ⓜ **Button** to select it to confirm the factory reset. Factory settings will be restored and the BOLT Series will reboot automatically.

FACTORY RESET NOTES:

- The screen will go dark and the factory restart will begin after a short pause.
- 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: Manual
  - 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, rotate the **Control Turret** to select the info ⓘ menu item.
2. Short press the **Menu** Ⓜ **Button** to display information about the BOLT Series: the model number, the boot version, the part and serial numbers, and the FCC ID.
3. Long press the **Menu** Ⓜ **Button** to 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 **(2)** 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. Remove dirt or sand from the optics as needed; 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. 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 BOLT Series thermal imaging scope 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.

26. FCC Statement

FCC ID: 2BHFB-4087-00

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.

27. General Troubleshooting

The troubleshooting table on page 52 lists issues that may occur when operating the BOLT 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.

28. Notes

ISSUE	POSSIBLE CAUSES	TROUBLESHOOTING STEPS
The BOLT Series will not turn on.	The battery is very low or has completely discharged.	Charge the battery.
The BOLT Series can not connect to a computer or external power supply.	External power supply has completely discharged.	Check the external power supply and charge it if necessary.
	Computer is turned off.	Power on the computer.
	USB-C cable is damaged.	Replace the cable.
The BOLT Series can not connect to the mobile device (smartphone or tablet).	Wi-Fi is not turned on.	Turn on the Wi-Fi in the main menu. See **Main Menu > Wi-Fi** on page 37.
	Wrong Wi-Fi password entered.	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 37.
	Too many Wi-Fi signals nearby, which may cause interference.	Move the BOLT Series and mobile device to an area with no or fewer Wi-Fi signals.
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.	• Try again when the Wi-Fi signal is stable. • Move the BOLT Series closer to the Wi-Fi signal.
The image is blurry, the background is uneven, or vertical lines or artifacts are present.	Non-uniformity correction is required.	Perform a non-uniformity correction. See **Non-uniformity Correction** on page 20 and **Using the Quick Menu** on page 17.
The image is too dark.	Image brightness level is too low.	Adjust the image brightness in the quick menu. See **Using the Quick Menu** on page 17.
The GUI is clear, but the image is blurry.	The lens is not focused.	• Adjust the focus on the target by rotating the objective focus ring **(3)**. • Adjust the image sharpness in the quick menu. See **Using the Quick Menu** on page 17.
	There is dust or ice on the interior or exterior optical surfaces of the lens.	• Wipe the external optical surface with the included microfiber lens cloth.
	There is condensation on the interior or exterior optical surfaces of the lens.	• Wipe the external optical surface with the included microfiber lens cloth. • Allow the BOLT Series to dry by leaving it in a warm, dry environment for at least 4 hours.
The image of the object being observed is missing.	Looking through glass.	Remove any glass windows from the field of view.
The BOLT Series will not focus.	Image settings are not optimal for the current environmental conditions or the object being observed.	• 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 ring **(3)**. • Adjust the image sharpness in the quick menu. See **Using the Quick Menu** on page 17. • Adjust the image and device settings. See **Quick Start Guide** on page 7. • Turn on Ultra-Clear mode. See **Main Menu > Ultra-Clear** on page 26.
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 26.
When the BOLT 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.

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