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. See **Zeroing Menu > Reticle Zeroing** on page 35.

10. In the submenu for the selected zero distance, center the reticle on the aiming point and freeze the image view.

    a. Short press the **Down** ▼ **Button** to move to the image freeze ❄ icon. The cursor position is indicated by a blue arrow ▶ icon.

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

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

    a. Short press the **Up** ▲ or **Down** ▼ **Button** to move between **X** and **Y**. The cursor position is indicated by a blue arrow ▶ icon.

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

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

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

    b. Use the **Down** ▼ **Button** to move in the negative direction: X= Left and Y= Down.

    c. Upon moving the reticle, a red cursor appears on the screen, representing the original position of the reticle.

13. Long press the **Menu** M **Button** to save the reticle position.

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.

For detailed Zeroing instructions, please see **Zeroing Menu > Reticle Zeroing** on page 35.

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 RICO 2 is powered on.

The RICO 2 has two non-uniformity correction (NUC) modes, automatic (**A**) and manual (**M**). In either mode, the user may choose to manually perform a NUC (shuttered or shutterless) at any time. See **Main Menu > Calibration Mode** on page 41 for instructions on setting the NUC mode.

Automatic Mode

In automatic mode (**A**), the RICO 2 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 RICO 2's internal shutter covers the sensor.

When automatic mode is selected, 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 RICO 2.

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

Manual Mode

In manual mode (**M**), the user independently determines the need to perform a shuttered or shutterless NUC based on the quality of the observed image.

Performing a Shuttered NUC

A shuttered NUC may be performed at any time while in manual or automatic mode. 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 **Power** ⏻ **Button**.

2. The internal shutter will cover the sensor and a shuttered non-uniformity correction (NUC) will be performed instantly.

Performing a Shutterless NUC

A shutterless NUC may be performed at any time while in manual or automatic mode. 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)**.

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

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

3. A prompt to close the lens cap **(1)** 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.

16. Photography and Video Recording

The RICO 2 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 51. 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 camera 📷 icon will appear briefly in the upper-left 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 if desired. See **Main Menu > Microphone** on page 45.

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

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

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

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

Recoil Activated Video Recording

When recoil activated video is turned on in the main menu, a video is automatically recorded when a shot is taken. The RICO 2 will record 3 seconds before the shot and 2 minutes and 57 seconds after the shot. The recoil activated video icon appears in the top status bar when RAV is turned on. The video recording timer, in HH:MM:SS (hour, minute, second) format, will appear next to the RAV icon when video is recording. See **Main Menu > Recoil Activated Video** on page 42 for instructions.

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

Video and Photography Notes

- You may enter and navigate the menu during video recording. The user interface (the status bar, icons, and menu) is captured in recorded video or photo files.

- Recorded photos and videos are saved to the memory card.
    - Photos are saved as PIC_HHMMSS.jpg.
    - Videos are saved as VID_HHMMSS.mp4 or RAV_HHMMSS.mp4.
    - HHMMSS is hour, minute, second.

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

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

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

17. Accessing the Internal Memor

When the RICO 2 is turned on and connected to a computer via the included data cable, it is recognized by the computer a 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 RICO 2.
2. Connect the RICO 2 to your computer via the included magnetic charging cable **(17)** or the USB-C cable **(16)**.
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 **RICO2** to access the built-in memory.
   a. Recorded photos and videos are separated into folde by date, YYYYDDMM.
6. Select the desired files or folders to copy or delete.

18. Using the NOCPIX App

The RICO 2 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 RICO 2 to Wi-Fi:
    a. Turn on the Wi-Fi. See **Main Menu > Wi-Fi** on page 40 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 RICO 2 from the list of Wi-Fi networks. It will appear in the list as "RICO2_YYYY_XXXXXXX," where YYYY is the model number and XXXXXXXX is the device serial number.
    e. Enter the Wi-Fi password and tap the **Join button**. The default password is 12345678.
3. Operate the RICO 2 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 RICO 2 firmware.

NOTE: When a factory reset is performed, the Wi-Fi SSID and password are reset to the defaults, RICO2_YYYY_XXXXXXX and 12345678. See **Settings Menu > Factory Reset** on page 53.

19. Integrated Laser Rangefinder

The RICO 2 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 blue 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 continuous rangefinder mode:

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

2. Locate the target.

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

4. Short press the **Power ⏻ Button** to exit the laser rangefinder.

To use single rangefinder mode:

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

2. Locate the target.

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

4. Long press the **Up** ▲ **Button** to switch from single to continuous rangefinding.

5. Short press the **Power** ⏻ **Button** to exit the laser rangefinder.

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

ACCURACY NOTES:

· The measurement accuracy and maximum range depend on the reflection ratio on the target surface, the angle at which the laser beam falls on the target surface, and environmental conditions. Reflectivity depends on the surface texture, color, size, and shape of the object. Typically, a glossy, bright surface will have higher reflectivity than a darker surface.

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

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

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

20. Digital Zoom

The RICO 2 will quickly increase the base magnification by enlarging the image digitally from 1 to 8 times (H75R) or 1 to 10 times (S74R).

To use digital zoom:

1. From the home screen, rotate the zoom lever **(7)** clockwise to zoom in or counterclockwise to zoom out on the observed object.

2. The real-time amplification, in increments of 0.1×, appears in the bottom status bar.

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 for crisp, sharp images.
- Increased image detail.
- Improved recognition of observed targets.

22. Main Menu Options and Descriptions

Menu and submenu options, from left to right are:

- **Main Menu:** Ultra-Clear, Reticle, Zeroing, Wi-Fi, PIP, Calibration, Recoil Activated Video, Ballistic Calculation, Microphone, Motion Sensor, Standby, Brightness, Pixel Defect Correction, Settings.
    - **Reticle Menu:** Zeroing Profile, Reticle Type, Reticle Color.
    - **Zeroing Menu:** Reticle Zeroing, Customize Zero Distance, Delete Distance.
    - **Ballistic Menu:** Ballistic Calculation, Profile, SPOA, MOA, Parameter Setting.
    - **Settings Menu:** Date, Time, Unit, Languages, 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 is turned on, the image contrast is enhanced, which is suitable for rainy, foggy, or low-contrast conditions.

1. Long press the **Menu** [M] **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** [M] **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** [M] **Button** to return to the home screen.

   NOTE: When Ultra-Clear mode is turned on and off, the RICO 2 will automatically perform a shuttered non-uniformity correction.

Reticle ⊹

Select the zeroing profile, reticle type, and reticle color

1. Long press the **Menu** [M] **Button** to enter the main menu.
2. Short press the **Up** [▲] or **Down** [▼] **Button** to select the reticle ⊹ menu item.
3. Short press the **Menu** [M] **Button** to enter the reticle submenu.
4. There are three submenu items: zeroing profile, reticle type, and reticle color.
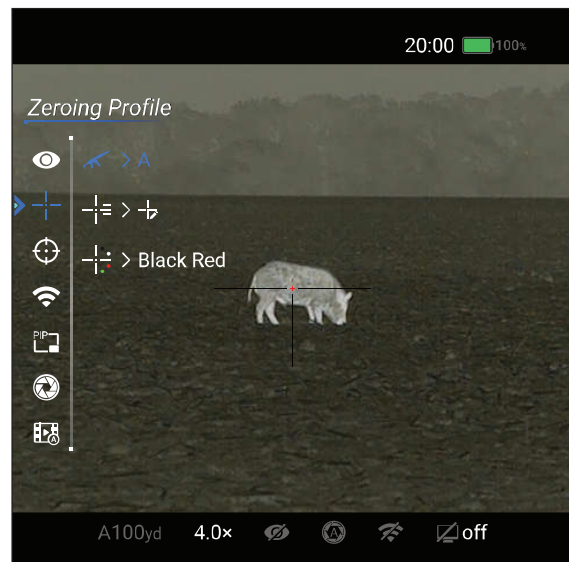
RETICLE MENU > ZEROING PROFILE ⟋

Select the zeroing profile

1. In the reticle submenu, the zeroing profile ⟋ menu item is selected by default.

2. Short press the **Menu** 〔M〕 **Button** to enter the zeroing profile submenu.

3. Short press the **Up** 〔▲〕 or **Down** 〔▼〕 **Button** to move through zeroing profile options, A, B, C, D, E, and F.

4. The selected zeroing profile appears in the bottom status bar.

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

RETICLE MENU > RETICLE TYPE ⊣⊨

Select the reticle type

1. In the reticle submenu, short press the **Up** 〔▲〕 or **Down** 〔▼〕 **Button** to select the reticle type ⊣⊨ menu item.

2. Short press the **Menu** 〔M〕 **Button** to enter the reticle type submenu.

3. Short press the **Up** 〔▲〕 or **Down** 〔▼〕 **Button** to move through reticle type options, 1–7 (see next page). 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** 〔M〕 **Button** to confirm the selection and return to the home screen.

Reticle Types

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
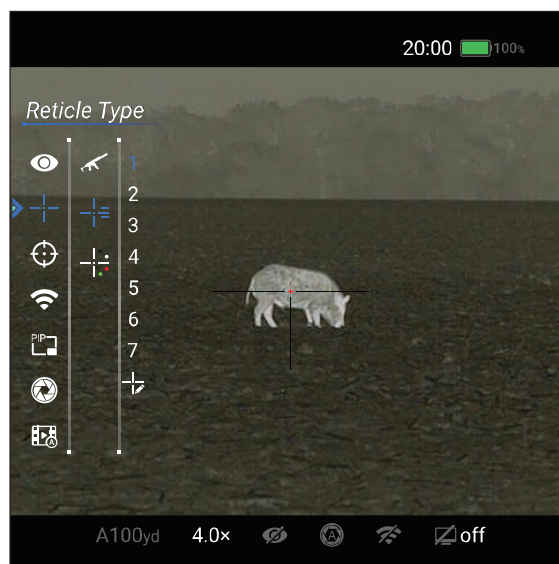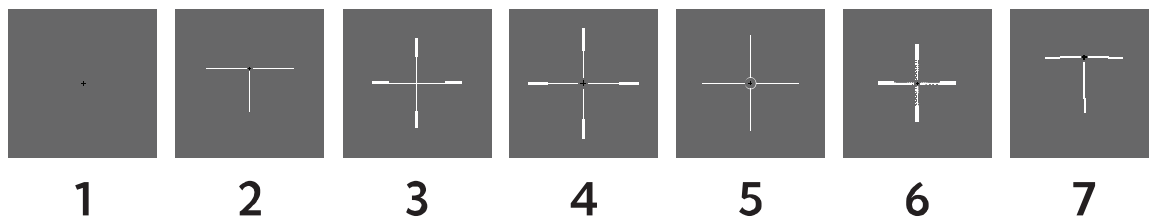
RETICLE MENU > RETICLE COLOR

Select the reticle color

1. In the reticle submenu, short press the **Up** ▲ or **Down** ▼ **Button** to select the reticle color menu item.

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

3. Short press the **Up** ▲ or **Down** ▼ **Button** to move through reticle color options, black red, black green, white red, white green, black white, white black, red, or green. The reticle color changes as the cursor moves through the color options.

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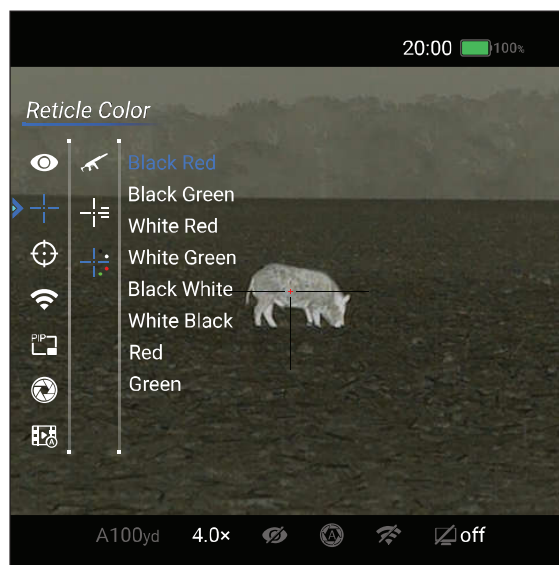
Zeroing

Select or customize a zero distance

In the zeroing menu, you can add a new zero distance or select a zero distance in the list to edit it, delete it, or adjust the reticle position. The RICO 2 supports up to 10 zero distances.

NOTE: Before selecting or adding a new zero distance, you must select a zeroing profile, A, B, C, D, E, or F. See **Reticle Menu > Zeroing Profile** on page 32.

1. Long press the **Menu** [M] **Button** to enter the main menu.
2. Short press the **Up** [▲] or **Down** [▼] **Button** to select the zeroing ⊕ menu item.
3. Short press the **Menu** [M] **Button** to enter the zeroing submenu.

ZEROING MENU > ZERO DISTANCE SUBMENU

Add or select a zero distance

To add a new zero distance:

1. In the zeroing menu, short press the **Up** [▲] or **Down** [▼] **Button** to move to the add ⊕ icon.
2. Short press the **Menu** [M] **Button** to add a new zero distance. A blue arrow will appear above and below the far-left digit to mark the cursor location.
3. Short press the **Up** [▲] or **Down** [▼] **Button** to increase or decrease the value of the selected digit from 0–9.
4. Short press the **Menu** [M] **Button** to switch between the three digits. The two blue arrows move to indicate the selected digit.
5. Short press the **Power** [⏻] **Button** to return to the previous menu without saving changes; **OR**
6. Long press the **Menu** [M] **Button** to save the new zero distance and return to the home screen.

To select a zero distance:

1. In the zeroing menu, short press the **Up** [▲] or **Down** [▼] **Button** to select a zero distance.

2. Short press the **Menu** [M] **Button** to enter the submenu for the selected zero distance.

3. In the submenu for the selected zero distance, you may:

   a. Select the reticle zeroing ⊕ menu item to adjust the X/Y position of the reticle. See **Reticle Zeroing** below.

   b. Select the zero distance to edit it. See **Zeroing Menu > Customize Zero Distance** on page 38.

   c. Select the delete 🗑 menu item to delete it. See **Zeroing Menu > Delete Distance** on page 39.

ZEROING MENU > ZERO DISTANCE SUBMENU > RETICLE ZEROING ⊕

Adjust the reticle position of the selected 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 submenu for the selected zero distance, the reticle zeroing ⊕ menu item is selected by default. Short press the **Menu** [M] **Button** to select and enter the reticle zeroing interface.

2. The reticle zeroing 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 **Zoom ⊕ Icon:** Select to change the zoom level.

4 **Freeze ❄ Icon:** Select to freeze the image. When frozen, the icon turns from white to blue. Select a second time to unfreeze the image.

5 **Reticle:** Shows the new reticle position.

6 **Red Cursor:** Indicates the center of the original reticle position.

3. In the submenu for the selected zero distance, center the reticle on the aiming point and freeze the image view.

a. Short press the **Down ▼ Button** to move to the image freeze ❄ icon. The cursor position is indicated by a blue arrow ❯ icon.

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

4. Adjust the zoom level, as needed:

a. Short press the **Up ▲** or **Down ▼ Button** to move to the zoom ⊕ icon.

b. Short press the **Menu** ⧆ **Button** to select it.

c. Short press the **Up** ⧆ or **Down** ⧆ **Button** to zoom in or out. The selected real-time amplification appears in the bottom status bar.

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

a. Short press the **Up** ⧆ or **Down** ⧆ **Button** to move between **X** and **Y**.

b. Short press the **Menu** ⧆ **Button** to select the desired axis. The selected axis will change from white to blue.

6. 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 curse appears onscreen, representing the original position of the reticle.

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

d. Use the **Down** ⧆ **Button** to move in the negative direction: X= Left and Y= Down.

e. Short press the **Up** ⧆ or **Down** ⧆ **Button** to move the reticle in the corresponding direction by 1 pixel; long press to move 10 pixels.

f. When adjusting your zero at a distance of 50 yards, a short press will change the impact point by 0.22", and a long press moves 2.16" as shown in the X and Y coordinate displays. At 100 yards that same short press moves 0.43" and a long press moves 4.32". At 200 yards a short press moves 0.86" and a long press moves 8.64".

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

7. Short press the **Menu** [M] **Button** to save the position for the selected axis and deselect it. When deselected, the axis will change from blue to white.

8. Repeat steps 5–7 to adjust the reticle position along the second axis if needed.

9. Short press the **Power** [⏻] **Button** to exit the interface without saving the reticle position; **OR**

10. Long press the **Menu** [M] **Button** to save the reticle position for both axes and return to the home screen.

11. "Data saving" will appear at the bottom of the screen and the system will exit to the homepage.

12. 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.

ZEROING MENU > ZERO DISTANCE SUBMENU > CUSTOMIZE ZERO DISTANCE $\overset{\cdot}{0}00_{yd}$

Edit a selected zero distance

1. In the submenu for the selected zero distance, short press the **Up** [▲] or **Down** [▼] **Button** to move to the zero distance.

2. Short press the **Menu** [M] **Button** to edit the selected zero distance. A blue arrow will appear above and below the far-left digit to mark the cursor location.

3. Short press the **Up** ▲ or **Down** ▼ **Button** to increase or decrease the value of the selected digit from 0–9.

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

5. Short press the **Power** [⏻] **Button** to return to the previous menu without saving changes; **OR**

6. Long press the **Menu** [M] **Button** to save the edited zero distance and return to the previous menu.

ZEROING MENU > ZERO DISTANCE SUBMENU > DELETE DISTANCE

Delete the selected zero distance

1. In the submenu for the selected zero distance, short press the **Up** ▲ or **Down** ▼ **Button** to move to the delete 🗑 icon.

2. Short press the **Menu** [M] **Button** to delete the selected distance.

3. A popup window shows the message "Delete this distance?" and two options, No and Yes. No is selected by default.

4. Short press the **Menu** Ⓜ **Button** to select **No** to return to the previous menu without deleting the zero distance; **OR**

5. Short press the **Up** ▲ or **Down** ▼ **Button** to select **Yes** and short press the **Menu** Ⓜ **Button** to delete the zero distance and return to the previous menu.

Wi-Fi

Turn Wi-Fi on / off

Turn on Wi-Fi to manipulate the RICO 2 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 Wi-Fi status, on or off , appears in the status bar.

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

NOTE: The Wi-FI SSID name and password can be changed in the NOCPIX App. See **Using the NOCPIX App** on page 26 for details.

PIP ⌐PIP⌐

Turn the picture-in-picture window 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 ⌐PIP⌐ menu item.

3. Short press the **Menu** ⌐M⌐ **Button** to toggle the PIP window on / off. When turned on, the PIP window appears at the top of the screen and displays a 2× zoomed image.

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

Calibration ◉

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

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 toggle between the two NUC modes: A (automatic) and M (manual).

4. The selected NUC mode, Ⓐ or Ⓜ, appears in the status bar.

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

Recoil Activated Video

Turn recoil activated video on / off

When recoil activated video is turned on, the rifle scope will record 3 seconds before the shot and 2 minutes and 57 seconds after the shot.

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

2. Short press the **Up** [▲] or **Down** [▼] **Button** to select the recoil activated video menu item.

3. Short press the **Menu** [M] **Button** to toggle recoil activated video on / off. The recoil activated video icon appears in the top status bar when RAV is turned on. The video recording timer, in HH:MM:SS (hour, minute, second) format, will appear next to the RAV icon when video is recording.

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

NOTES:

· When multiple shots are taken within the same 30-second period, only one video will be taken.

· When recoil activated video recording is turned on, standard video recording is unavailable.

Ballistic Calculation

Adjust the ballistic calculation settings

1. **Menu** [M] **Button** to enter the main menu.

2. Short press the **Up** [▲] or **Down** [▼] **Button** to select the ballistic calculation menu item.

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