

User's Manual

N O C P I X
MINI 2 H25

Helmet-Mountable Thermal Monocular



WARNING! 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.

FCC Statement

FCC ID: 2BHFB-4065-00

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.

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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 MINI 2 H25 is a compact, lightweight thermal imaging device engineered for both handheld and helmet-mounted operation. Its versatile design enables seamless transition between use as a handheld monocular and integration with a helmet-mounting system for hands-free applications. Equipped with a high-performance 60 Hz, 12 μ m thermal sensor and advanced Reality+ image processing, the MINI 2 delivers exceptional image clarity and detail across a wide range of conditions. The system features a 640x512 resolution thermal core paired with a 1280x1024 AMOLED display, providing a sharp, high-contrast viewing experience within a highly portable form factor. In addition to thermal imaging, the MINI 2 incorporates digital night vision functionality with optional thermal overlay, allowing users to utilize fusion imaging for enhanced target recognition and situational awareness. The device also includes onboard audio and video recording capabilities, supported by 32 GB of internal storage, enabling users to capture, store, and review critical moments directly from the unit.

2. Features

- Reality+ technology
- 12 μ m high-performance thermal detector
- ≤ 15 mK sensitivity
- Dual-sensor imaging system
- 1–4x digital zoom
- Aluminum housing
- Maximum detection range: 1420 yards
- 1280x1024 AMOLED display
- High frame frequency: 60Hz
- NOCPIX External Battery Pack with Magnetic Charging Cable
- Built-in 32 GB storage to support image capture and video recording
- Built-in Wi-Fi module
- Mobile device App compatible
- Picture in Picture (PIP)
- Ultra-clear mode
- Multiple color palettes
- Compact and lightweight
- User-friendly interface

3. Tech Specs

NOCPIX MINI 2		H25
Thermal Sensor		
Resolution		640x512
Pixel Size		12 μ m
Frame Rate		60hz
Sensor Sensitivity		≤ 15 mK
Image Processing		Reality+
Core		Nocpix 640
Optics		
Objective Lens		25 mm f/1.0
Magnification / Digital Zoom		1x / 4x
Field of View		17.6° x 14.1°
Detection Range		1420 Yards
Display Type / Display Resolution		0.6-inch AMOLED / 1280x1024
Color Palettes		White Hot, Black Hot, Red Hot, Color, Violet, Crimson, Viridian
Mounting System		Dovetail shoe
Eye Relief		25 mm
Dioptr Range		-5 to +5
Digital Imaging Sensor		
Image Sensor		1/1.8" CMOS
Resolution		960x540
Pixel Size		8 μ m
Objective Lens		F 14.3/0.85
FOV		30.8° x 17.3°
Electronics		
Onboard Recording		Video and Image
Onboard Storage		32 GB
Wireless Connectivity		Image and Video via App.
Power Supply		USB-C External, Built-In Battery, External Battery Pack (7 Hours)
Physical		
Size		4.00" x 1.72" x 2.54"
Weight		8.47 Oz
Environmental/Warranty		
Warranty		5 Years
Housing Material		Aluminum
Ingress Protection		IP67
Operation Temperature		-4°F ~122°F

4. Accessories

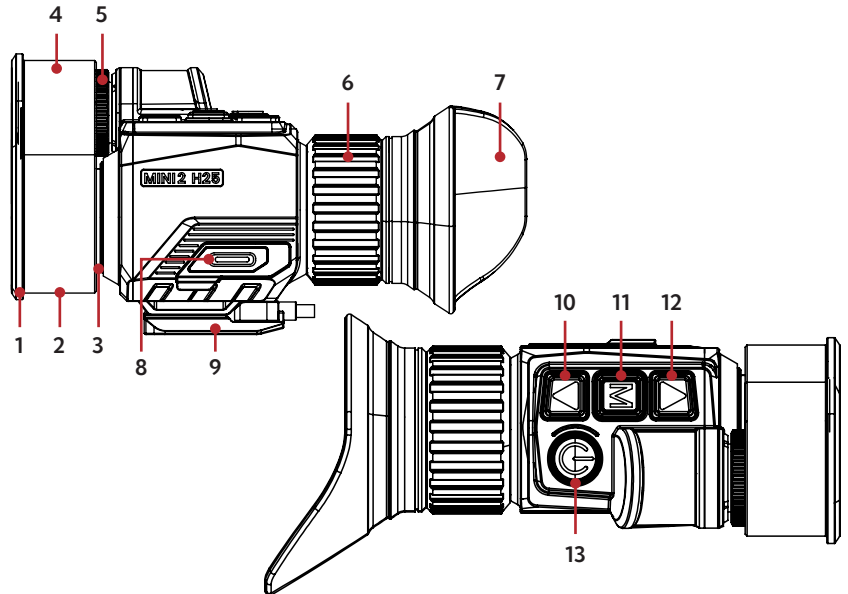
The MINI 2 H25 Helmet-Mountable Thermal Monocular ships with everything you need to get out and hunt.

- Objective Lens Cap
- Standard Eyeguard
- External Battery Pack
- Magnetic Charging Cable
- USB-C Cable
- Hex Key
- Carrying Bag
- Lens Cloth
- User Manual



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

5. Components and Controls



- | | | | |
|---|--------------------------------------|----|---------------|
| 1 | Objective Lens Cap | 8 | USB-C Port |
| 2 | Thermal Objective Lens | 9 | Dovetail Shoe |
| 3 | Thermal Objective Lens Focus Ring | 10 | Down Button |
| 4 | Digital Night Vision Lens | 11 | Menu Button |
| 5 | Digital Night Vision Lens Focus Ring | 12 | Up Button |
| 6 | Eyepiece / Diopter Adjustment Ring | 13 | Power Button |
| 7 | Eyeguard | | |

6. Description of Control Buttons and Shortcuts

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

Up Button 		
Current Screen / Menu	Short Press	Long Press
Home screen	Adjust the digital zoom level. In Fusion Mode, both layers are zoomed simultaneously, maintaining the original fusion position	Switch between Digital/Infrared/Fusion modes.
Main menu / quick menu	Move the cursor up	— —

Up Button  + Down Button 		
Current Screen / Menu	Short Press	Long Press
Home screen	Manually perform a shuttered non-uniformity correction	Manually perform a shutterless (background) non-uniformity correction

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

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

7. Quick Start Guide

Step 1: Prepare to Use the MINI 2 H25

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. Install the eyeguard (7) and objective lens cap (1).
4. Charge the NOCPIX External Battery, and connect it to the MINI 2 H25. See **Battery Overview** on page 9.

Step 2: Turn On the MINI 2 H25

1. Remove the objective lens cap (1).
2. Long press the **Power**  button for 2 seconds to turn on the MINI 2 H25.
3. Rotate the eyepiece diopter adjustment ring (6) until the interface icons are clear.

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

Step 3: Adjust Settings in the Quick Menu

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

1. Set the color palette to white hot, black hot, red hot, color, violet, crimson, or viridian.
2. Select an image 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 screen brightness level, from 1–10.

Step 4: Adjust Device Settings

1. Long press the **Menu**  button to enter the main menu (see **Main Menu Options and Descriptions** on page 24 for detailed instructions) to:
 - a. Turn on Ultra-Clear mode.
 - b. Set the non-uniformity correction (NUC) mode to automatic, manual, or background.
 - c. Set the image hue mode to warm or cool.
 - d. Turn on auto standby mode.
 - e. Turn on the motion sensor.
 - f. Set the date and time.
2. From the home screen, short press the **Up**  button to set the digital zoom levels to 1x, 1.5x, 2x, or 4x.
3. From the home screen, long press the **Up**  button to set the image sensor mode to infrared , digital , or fusion . The default mode is infrared. See **Image Sensor Mode** on page 22 for details.

8. Battery Overview

The MINI 2 H25 has a built-in battery that serves as an emergency power supply. It comes with a NOCPIX External Battery Pack, which allows 4+ hours of operation. Fully charge the external battery pack before using it for the first time.

Charging the NOCPIX External Battery Pack

WARNING: Never connect the battery pack to a USB power adapter that is greater than 5V–2A.

1. Connect the USB–C cable (14) to the USB–C port on the External Battery Pack (15).
2. Connect the standard USB end of the cable to:
 - a. A 5V–2A USB power adapter; **OR**
 - b. A standard USB 3.0 port on a laptop or computer.
3. During charging, the LED status indicator (C) on the battery pack will be red.
4. Disconnect the battery pack when the status LED turns green, indicating that the battery pack is fully charged. Do not overcharge.

Powering the MINI 2 H25 Using the NOCPIX External Battery Pack

1. Remove the dovetail shoe (9) at the base of the MINI 2.
2. Connect the USB–C end of the magnetic charging cable (16) to the External Battery Pack (15).
3. Connect the other end of the magnetic charging cable to the metal contact points on the bottom of the MINI 2 H25.
4. Reinstall the dovetail shoe to secure the magnetic charging cable.
5. Use the included velcro strap to mount the external battery pack to a suitable location.

Powering the MINI 2 H25 Via an Alternative Power Source

1. Connect the USB–C cable (14) to the USB–C port (8) on the side of the MINI 2 H25.
2. Connect the USB end of the cable to:
 - a. A 5V–2A USB–C power adapter; **OR**
 - b. A standard USB 3.0 port on a laptop or computer; **OR**

c. A 5V mobile power bank.

9. Battery Safety Warnings

WARNINGS:

- Do not use a power bank, power adapter, or USB cable that has been modified or damaged.
- Do not expose batteries to high temperatures or open flame, and do not immerse them in water.
- Do not leave batteries unattended while charging.
- Do not leave 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.
- 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.

10. 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 MINI 2 H25 is operated via four control buttons. The control buttons can be used to perform shortcut operations from the home screen, as well as in the menu and full-screen interfaces. See **Description of Control Buttons and Shortcuts** on page 6 for shortcut button details.

Powering On

1. Remove the objective lens cap (1).
2. Long press the **Power**  button for 2 seconds to turn on the imager. The Nocpix logo will appear.
3. Check the battery  icon in the status bar to determine the current battery charge.

Powering Off

1. Long press the **Power**  button. The shutdown screen will open, showing a 3-second countdown.
2. The MINI 2 H25 will power off automatically when the countdown completes.

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

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

Adjusting the Focus

ADJUSTING THE DIOPTER/EYEPIECE

1. Rotate the eyepiece diopter adjustment ring (6) at the rear of the imager right or left until the user interface is clear.
2. Look closely to ensure all icons and the status bar appear sharp and in focus. No additional diopter adjustments are required unless the user wishes to make changes.

NOTES:

- After the initial adjustment, there is no need to rotate the eyepiece adjustment ring (6) for long distances or other conditions.
- If necessary during standard use, the objective lens focus rings 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 large focus ring (3) left or right to adjust fine focus of the thermal objective lens.
2. Rotate the smaller focus ring (5) to adjust the digital night vision objective lens.

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

Status Bar Overview

The status bar at the top of the screen shows operating information for the MINI 2 H25.



- 1 **Digital Zoom:** Shows the selected zoom level, 1x, 1.5x, 2x, or 4x.
- 2 **Infrared/Digital/Fusion Mode:** Shows the sensor imaging mode: infrared , digital , or fusion .
- 3 **Ultra-clear:** Shows the Ultra-clear status, on  or off .
- 4 **Wi-Fi:** Shows the Wi-Fi status, on  or off .
- 5 **Non-Uniformity Correction (NUC) Mode:** Shows the non-uniformity correction (NUC) mode, automatic , manual , or  Background. A countdown timer will appear instead of the NUC mode when 5 seconds remain until an automatic NUC.
- 6 **Time:** Shows the current time in 24-hour format.
- 7 **Battery:** Color and fill level indicate the current battery status. A charging icon appears when the battery is charging.

Using the Quick Menu

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



- On the home screen, short press the **Menu**  button to enter the quick menu.
- Short press the **Up**  or **Down**  button to move through the quick menu options. The selected menu option turns from white to blue.
- Short press the **Menu**  button to toggle through the parameters for the selected menu option.
- Long press the **Menu**  button to save any changes and return to the home screen.
- After 5 seconds of inactivity, the system will automatically save any changes and return to the home screen.

NOTE: See **Quick Menu Options and Descriptions** on page 23 for detailed information about the quick menu options.

Navigating the Main Menu



- From the home screen, long press the **Menu [M] button** to enter the main menu.
- Short press the **Up ▲** or **Down ▼** button to move through the menu options. The selected menu icon turns from white to blue.
- Short press the **Menu [M] 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 [M] button** to confirm any changes and return to the home screen.
- Short press the **Power [⏻] button** to return to the previous menu without saving.
- After 10 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.

11. 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 MINI 2 H25 is powered on.

The MINI 2 H25 has three NUC modes: automatic, manual, and background. See **Main Menu > Calibration** on page 28 for information on setting the NUC mode.

Automatic NUC

In automatic mode, the MINI 2 H25 will perform a NUC automatically according to the internal software algorithm. There is no need to close the objective lens cap as the MINI 2's internal shutter covers the sensor.

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

Manual NUC

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 **Up ▲** and **Down ▼** buttons.
2. The internal shutter covers the sensor, and a manual NUC is performed instantly.

Background NUC

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 (1).
2. From the home screen, short press the **Up ▲** and **Down ▼** buttons.
3. A prompt to close the lens cap appears onscreen. The background NUC starts after about 2 seconds.

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

1. Close the objective lens cap (1).
2. From the home screen, long press the **Up ▲** and **Down ▼** buttons.
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.

12. Photography and Video Recording

The MINI 2 H25 is equipped with audio/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 34. 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. From the home screen, long press the **Down ▼** button to start a video recording.
2. When the video recording starts, the recording timer, in HH:MM:SS (hour, minute, second) format, appears in the upper-right corner of the screen.
3. When recording, short press the **Down ▼** button to take a photo.
4. Long press the **Down ▼** button to stop and save the video recording.



Video and Photography Notes

- You may enter and navigate the menu during video recording.
- Recorded photos and videos are saved to the memory card.
 - Photos are saved as PIC_HHMMSS.jpg.
 - Videos are saved as VID_HHMMSS.mp4.
 - HHMMSS is hour, minute, second.
- The number of recorded files is limited only by the capacity of the internal memory.
- Regularly check the available memory storage space and move video footage and images to other storage media to free up space on the memory card.
- The maximum duration of a recorded video file is 5 minutes. After this time, video recording will begin a new file automatically.

13. Accessing the Internal Memory

When the MINI 2 H25 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 MINI 2 H25.
2. Connect the MINI 2 H25 to your computer via the included USB-C cable (15).
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 **MINI 2** to access the built-in memory. Recorded photos and videos are separated into folders by date, YYYYDDMM.
6. Select the desired files or folders to copy or delete.

14. Using the NOCPIX App

The MINI 2 H25 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 from any app store.
2. Connect the MINI 2 H25 to Wi-Fi:
 - a. Turn on the Wi-Fi. See **Main Menu > Wi-Fi** on page 25 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 MINI 2 H25 from the list of Wi-Fi networks: "MINI 2_XXX-YYYYYYY," where XXX is the model and YYYYYYY is the serial number.
 - e. Enter the Wi-Fi password and tap the **Join** button; the default is 12345678.
3. Operate the MINI 2 H25 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 MINI 2 H25 firmware.



NOTE: When a factory reset is performed, the Wi-Fi SSID and password are reset to the defaults, MINI 2_XXX-YYYYYYY and 12345678. See **Settings Menu > Factory Reset** on page 36.

15. Digital Zoom

The MINI 2 H25 will quickly increase the base magnification by enlarging the image digitally from 1 to 4 times.

To use digital zoom:

1. From the home screen, short press the **Up**  **button** to toggle through the digital zoom levels, 1x, 1.5x, 2x, or 4x; the selected zoom level is displayed in the status bar.

NOTE: In Fusion Mode, both layers are zoomed simultaneously, maintaining the original fusion position.

16. Image Sensor Mode

The MINI 2 H25 uses a dual-sensor imaging system consisting of a thermal infrared sensor and a low-light digital camera. Users can view images using the thermal sensor, the digital camera, or a fusion view, which combines both sensors to overlay thermal highlights onto the digital image.

1. From the home screen, long press the **Up**  **button** to set the image sensor mode to infrared , digital , or fusion . The default mode is infrared.
 - a. **IR Infrared Mode:** Displays the thermal image captured by the thermal sensor.
 - b. **Digital Mode:** Displays the visible/low-light image captured by the digital-imaging CMOS sensor.
 - c. **Fusion Mode:** Thermal information overlays the digital image. Combines the thermal and digital images to highlight heat signatures within the visible scene.
2. In fusion mode, you may set the opacity of the infrared image (positioned overlaying the digital image layer) from 1 to 5. The X/Y position of the infrared image may also be adjusted. See **Main Menu > Image Fusion** on page 31.

NOTE: PIP is not available in fusion mode. If PIP is enabled, when the user switches to fusion mode, PIP will be automatically disabled.

17. Quick Menu Options and Descriptions

1. Short press the **Menu**  **button** to enter the quick menu.
2. Short press the **Up/Down** **buttons** to move through the quick menu options. The selected option icon changes from white to blue.
3. Short press the **Menu**  **button** to toggle through the options for each menu item.
4. Long press the **Menu**  **button** to confirm the selection and exit.

Quick Menu Structure:

- Color Palette, Image Brightness, Image Contrast, Image Sharpness, and Screen Brightness.

Color Palette

Set the color palette

1. In the quick menu, short press the **Up/Down** **buttons** to select **Color Palette** .
2. Short press the **Menu**  **button** to toggle through the color palette options: white hot, black hot, red hot, rainbow, violet, crimson, and viridian.
3. Long press the **Menu**  **button** to confirm and exit.



Image Contrast / Image Sharpness / Image Brightness

Set the screen brightness, image contrast, or image sharpness

1. In the quick menu, short press the Up/Down buttons to select **Image Contrast** , **Image Sharpness** , or **Image Brightness** .
2. Short press the **Menu**  button to toggle through levels 1–10.
3. Long press the **Menu**  button to confirm the selection and exit.



18. Main Menu Options and Descriptions

Menu and submenu options, from left to right, are:

- **Main Menu:** Ultra-Clear, Wi-Fi, PIP, Calibration, Image Hue, Standby, Motion Sensor, Fusion Mode Adjustment, Settings.
- **Settings Menu:** Date, Time, 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 or off

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

1. Long press the **Menu**  button to enter the main menu.
2. Short press the Up/Down buttons to select the Ultra-Clear  menu item.
3. Short press the **Menu**  button to turn Ultra-Clear ON or OFF.
4. The Ultra-Clear status, on  or off , appears in the bottom status bar.
5. Long press the **Menu**  button to return to the home screen.

NOTE: When Ultra-Clear mode is turned on and off, the MINI 2 H25 will automatically perform a shuttered non-uniformity correction.



Wi-Fi

Turn Wi-Fi or N-Link on or off

Turn on Wi-Fi to operate the MINI 2 H25 via the NOCPIX App. Turn on N-Link to pair the MINI 2 H25 with another NOCPIX device to share single-measurement rangefinding and ballistic calculation data.

1. In the main menu, **Wi-Fi**  is selected by default.



2. Short press the **Menu [M] button** to select it and enter the Wi-Fi submenu.

To turn Wi-Fi on or off:

1. In the Wi-Fi submenu, short press the **Menu [M] button** a second time to turn the **Wi-Fi toggle ON** or OFF. The Wi-Fi status, on  or off , appears in the bottom status bar.
2. Long press the **Menu [M] button** to confirm the selection and exit.

To connect the MINI 2 H25 to another NOCPIX device via N-Link:

1. On the other NOCPIX device, turn on Wi-Fi.
2. In the Wi-Fi submenu, short press the **Up/Down buttons** to move to the **N-Link toggle**, and short press the **Menu [M] button** to turn it ON or OFF.
3. When N-Link is turned on, the N-Link ON  icon appears in the status bar in place of the Wi-Fi status icon, and a list of nearby NOCPIX devices is displayed.
4. Short press the **Up/Down buttons** to move to the desired NOCPIX device, and long press the **Menu [M] button** to select the device to connect to it.



5. When the MINI 2 H25 is successfully connected to another NOCPIX device, a checkmark appears to the right of the device name, and the N-Link device connected  icon appears in the status bar.
6. Long press the **Menu [M] button** to confirm and exit.

When the two NOCPIX devices are connected via N-Link:

- The display settings (the color palette, magnification level, HD mode, PIP mode, etc.) are synchronized between the two devices.
- When connected, if a single rangefinder measurement is taken on the connected device, it will be transmitted to the MINI 2. Continuous rangefinding data cannot be shared.
- If Wi-Fi or N-Link is turned off on either device, or if either device is powered off, the device sync will be canceled.

NOTE: Wi-Fi and N-Link cannot be used at the same time; when one is turned on, the other is automatically turned off.



PIP

Turn PIP on or off

1. Long press the **Menu ** button to enter the main menu.
2. Short press the **Up/Down buttons** to select the PIP  menu item.
3. Short press the **Menu ** button to turn PIP mode ON or OFF.
4. When turned on, a 2x zoomed image, centered on the screen will appear at the top of the screen. Please note that the PIP image is 2x that of the total magnification shown in the status bar.
5. Long press the **Menu ** button to return to the home screen.

NOTES:

- When the image in the main body of the screen is magnified via digital zoom, the PIP image will enlarge accordingly.
- PIP is not available in fusion mode. If PIP is enabled, when the user switches to fusion mode, PIP will be automatically disabled.

Calibration

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

1. In the main menu, short press the **Up/Down buttons** to select **Calibration **.
2. Short press the **Menu ** button to enter the submenu.



3. Short press the **Up/Down buttons** to move through the submenu options, NUC modes: A (automatic), M (manual), and Background (B). The selected NUC mode, A, M, or B, appears in the status bar.
4. Long press the **Menu ** button to confirm the selection and exit.

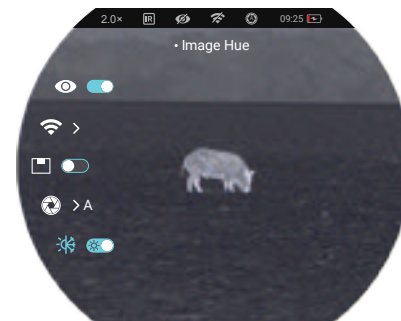
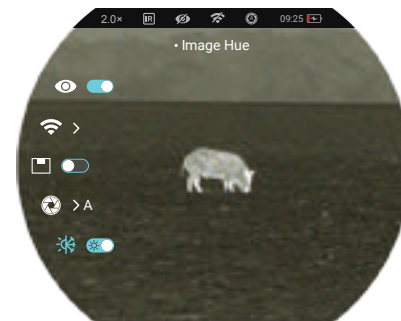
NOTE: When performing a background NUC, you need to cover the lens cap according to the prompts.

Image Hue

Set the image hue mode

1. Long press the **Menu ** button to enter the main menu.
2. Short press the **Up/Down buttons** to select the image hue  menu item.
3. Short press the **Menu ** button to toggle between the options:
 - a. **Warm ** (toggle ON): Provides a softer image and reduces eye strain.
 - b. **Cool ** (toggle OFF): Provides increased contrast and image brightness.
4. Long press the **Menu ** button to confirm the selection and exit.

NOTE: Image hue is available when using the white hot or black hot color palette.



Standby

Turn auto standby on or off

When the motion sensor and auto standby are both turned on, the system will automatically enter standby when the device is flipped up out of the way.

1. In the main menu, short press the **Up/Down buttons** to select **Standby** .
2. Short press the **Menu**  button to turn auto standby ON or OFF.
3. Long press the **Menu**  button to confirm the selection and exit.
4. When in standby mode, short press the **Power**  button to exit.

NOTES:

- When automatic standby is turned **ON**:
 - The MINI 2 automatically enters standby mode if the vertical tilt angle exceeds 70° or the horizontal tilt angle exceeds 30°.
 - The MINI 2 will not enter standby mode while it is in a level (horizontal) position.
- When auto standby is turned **OFF**, the MINI 2 will operate until the batteries run out.



Motion Sensor

Turn the motion sensor on or off

1. In the main menu, short press the **Up/Down buttons** to select **Motion Sensor** .
2. Short press the **Menu**  button to toggle the motion sensor ON or OFF. When on, the tilt angle appears on the left side of the screen, and the pitch angle appears on the right side of the screen.
3. Long press the **Menu**  button to return to the home screen.

NOTE: The tilt angle is not shown in the figure above because it is hidden by the menu.



Image Fusion

Adjust the opacity and X/Y position of the infrared image for fusion mode

1. Long press the **Menu**  button to enter the main menu.
2. Short press the **Up/Down buttons** to select the **Image Fusion**  menu item.
3. Short press the **Menu**  button to enter the fusion mode adjustment interface. The image mode will default to Fusion Mode.



4. The interface has the following features:

- 1 **Y-Axis $\updownarrow$ Icon:** Select to move the infrared image vertically.
- 2 **X-Axis $\leftrightarrow$ Icon:** Select to move the infrared image horizontally.
- 3 **Opacity:** Set the opacity level from 1–5.



To adjust the opacity of the infrared image:

1. Short press the **Up/Down buttons** to move to **Opacity**.
2. Short press the **Menu [M] button** to select it; the text will turn from white to blue.
3. Short press the **Up/Down buttons** to increase or decrease the opacity level in increments of 1:
 - a. The smaller the value, the higher the transparency level.
 - b. The higher the value, the lower the transparency level.



To adjust the X/Y position of the infrared image:

1. Select the axis (X or Y) along which to move the infrared layer/screen:
 - a. Short press the **Up/Down buttons** to move between **X** and **Y**. The cursor position is indicated by a blue arrow and blue font.
 - b. Short press the **Menu [M] button** to select or deselect an axis (X or Y). The selected axis will flash continuously. When deselected, the axis will stop flashing.

2. Adjust the X/Y position:

- a. Use the **Up $\blacktriangle$ button** to move in the positive direction: X= Right and Y= Up.
- b. Use the **Down $\blacktriangledown$ button** to move in the negative direction: X= Left and Y= Down.
- c. Short press the **Up/Down buttons** to move the image in the corresponding direction by 1 pixel; long press to move 10 pixels.



3. Short press the **Menu [M] button** to save the position for the selected axis and deselect it. The axis will stop flashing. Move to and select the second axis and adjust the screen/layer position, as needed.
4. When X/Y position adjustment is complete:
 - a. Short press the **Power $\odot$ button**; OR
 - b. Long press the **Menu [M] button**. A popup window shows the message "Do you want to keep these settings?" and two options, Yes and No:
 - i. Short press the **Menu [M] button** to select **Yes** to confirm changes and exit to the home screen; OR
 - ii. Short press the **Up/Down buttons** to select **No**, and short press the **Menu [M] button** to exit without saving.

Settings Menu

Adjust the general settings

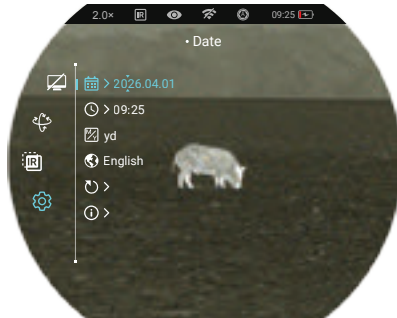
1. Long press the **Menu**  button to enter the main menu.
2. Short press the **Up/Down** buttons to select the settings  menu item.
3. Short press the **Menu**  button to enter the submenu.



SETTINGS MENU > DATE

Set the date

1. In the settings submenu, short press the **Up/Down** buttons to select the date  menu item.
2. Short press the **Menu**  button to edit the date, shown in YYYY.MM.DD format. A blue arrow will appear above and below the year digit.
3. Short press the **Up/Down** buttons 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

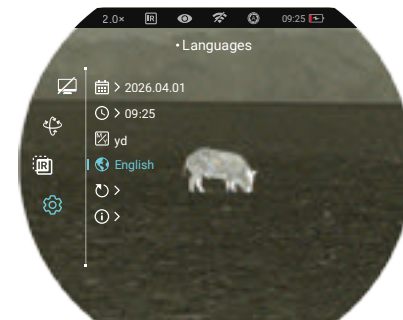
1. In the settings submenu, short press the **Up/Down** buttons to select the time  menu item.
2. Short press the **Menu**  button to edit the time, shown in 24-hour format, HH:MM. A blue arrow will appear above and below the hour digit.
3. Short press the **Up/Down** buttons to select the correct value for each digit (hour and minute).
4. Short press the **Menu**  button to switch between digits. The two arrows move to indicate the selected digit.
5. Long press the **Menu**  button to save the time and return to the home screen. The set time appears in the status bar.



SETTINGS MENU > LANGUAGES

Select the language

1. In the settings submenu, short press the **Up/Down** buttons to select the language  menu item.
2. Short press the **Menu**  button to enter the submenu.
3. Short press the **Up/Down** buttons to move through the language options.
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, short press the **Up/Down buttons** to select the factory reset menu item.
2. Short press the **Menu ** button to enter the submenu.
3. Two options, No and Yes, appear.
4. Short press the **Menu ** button to select **No** to cancel the factory reset and return to the submenu; **OR**
5. Short press the **Up/Down buttons** to move to **Yes**, and short press the **Menu ** button to confirm the factory reset. Factory settings will be restored and the MINI 2 H25 will reboot automatically.



FACTORY RESET NOTES:

- The screen will go dark, and the factory restart will begin after a pause of about 10 seconds.
- A factory reset cannot be undone.
- The settings listed below will be reset to the factory defaults.

SETTINGS MENU > INFO

Show device information

1. In the settings submenu, short press the **Up/Down buttons** to select the info  menu item.
2. Short press the **Menu ** button to enter the submenu.
3. The info submenu will display information about the MINI 2 H25: the BOOT, software, and hardware versions, part and serial numbers, and FCC ID.
4. Long press the **Menu ** button to save and return to the home screen.



19. 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.

20. Basic Maintenance

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

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

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

21. 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 MINI 2 H25 imager 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.

22. General Troubleshooting

The troubleshooting table on the next page lists issues that may occur when operating the MINI 2 H25. 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.

ISSUE	POSSIBLE CAUSES
The MINI 2 H25 will not turn on.	The battery is very low or has completely discharged.
The MINI 2 H25 can not connect to a computer or external power supply.	External power supply has completely discharged.
	Computer is turned off.
	USB-C cable is damaged.
The MINI 2 H25 can not connect to the mobile device (smartphone or tablet).	Wi-Fi is not turned on.
	Wrong Wi-Fi password entered.
	Too many Wi-Fi signals nearby, which may cause interference.
Wi-Fi signal is lost or interrupted.	The device is out of range of a strong Wi-Fi signal, or there are obstacles (such as concrete walls) between the device and the signal.
The image is blurry, the background is uneven, or vertical lines or artifacts are present.	Non-uniformity correction is required.
The image is too dark.	Image brightness level is too low.
The GUI is clear, but the image is blurry.	The lens is not focused.
	There is dust or ice on the interior or exterior of the lens.
	There is condensation on the interior or exterior surface of the lens.
Observed target disappears.	Observing the target through glass.
The MINI 2 H25 will not focus.	Image settings are not optimal for the current environmental conditions or the object being observed.
Image quality is low or detection range is reduced.	Environmental conditions, such as snow, rain, humidity, and fog.
When the MINI 2 H25 is used in low-temperature conditions, the image quality of the surroundings is worse than in warm-temperature conditions.	Environmental conditions.

TROUBLESHOOTING STEPS
Charge the battery pack.
Check the external power supply and charge it if necessary.
Power on the computer.
Replace the cable.
Turn on the Wi-Fi in the main menu. See Main Menu > Wi-Fi on page 25.
On the mobile device, go to Settings > Wi-Fi and enter the password (default is 12345678). See Main Menu > Wi-Fi on page 25.
Move the MINI 2 H25 and mobile device to an area with no or fewer Wi-Fi signals.
Try again when the Wi-Fi signal is stable. Move the MINI 2 H25 closer to the Wi-Fi signal.
Perform a non-uniformity correction. See Non-uniformity Correction on page 17.
Adjust the image brightness in the quick menu. See Using the Quick Menu on page 15.
Adjust the focus by rotating the focus rings for the large thermal objective and the small digital night vision objective. Adjust the image sharpness in the quick menu. See Using the Quick Menu on page 15.
Wipe the external optical surface with the included microfiber lens cloth.
Wipe the external optical surface with the included microfiber lens cloth. Allow the MINI 2 H25 to dry by leaving it in a warm, dry environment for at least 4 hours.
Remove any glass windows from the field of view.
Check the external surface of the 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 rings. Adjust the image sharpness in the quick menu. See Using the Quick Menu on page 15. Adjust the image and device settings. See Quick Start Guide on page 8. Turn on Ultra-Clear mode. See Main Menu > Ultra-Clear on page 25.
Turn on Ultra-Clear mode. See Main Menu > Ultra-Clear on page 25.
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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