

ThOR 6 Series

THERMAL IMAGING SCOPE



MANUAL



ATN EUROPE LTD

Welcome to the ATN Family!

Thank you for choosing the **ThOR 6 Elite Thermal Riflescope!**

This manual will guide you through the setup, operation, and maintenance of your device to ensure optimal performance and long service life.

Please read this manual carefully before using the product and retain it for future reference.

REVISION HISTORY

Version	Revision Text	Released
V1.1.0	Updated Version	April 2026

ABOUT THIS MANUAL

- This manual is provided **for reference only**. Minor differences may exist between the descriptions in this manual and the actual product.
- We are **not liable for any loss or damage** resulting from operation of the product in ways that are not in accordance with this manual.
- The manual may be updated in accordance with the latest **laws, regulations, or product revisions**. For detailed or updated information, please refer to the printed manual, QR code, or our official website.
- All **designs, features, and software** are subject to change without prior notice. Product updates may result in differences between your device and the information in this document.
- **Printing errors or discrepancies** in function descriptions, operations, or technical data may occur. In case of doubt or dispute, we reserve the right of final interpretation.
- If the PDF version of this manual cannot be opened, please **update your reader software** or try another standard PDF reader.
- All **trademarks and registered trademarks** mentioned in this manual are the property of their respective owners.
- If any issues occur while using the device, please **contact your supplier, local distributor, or customer service** for assistance.
- In the event of any uncertainty or disagreement, the manufacturer reserves the **right of final explanation**.

TABLE OF CONTENTS

About This Manual	3
1. Product Introduction	6
2. Product Overview	6
2.1 Package Contents	6
2.2 Device Description	7
2.3 Button Description	8
2.4 Specifications	10
2.5 Mounting the Rifle Scope	14
3. Device Operation	14
3.1 Power Supply	14
3.1.1 Installing the Battery	14
3.1.2 Charging the Device	15
3.2 Controls	15
3.3 Power On / Off	15
3.4 Initial Setup	16
3.5 Image Adjustment	16
3.5.1 Diopter Adjustment	16
3.5.2 Focus Adjustment	17
3.5.3 Status Bar Display	17
3.5.4 Adjusting Brightness	18
3.5.5 Adjusting Sharpness	18
3.6 Videos Recording and Capturing Images	19
3.6.1 Recording Videos	19
3.6.2 Capturing Images	19
4. Configuring the Rifle Scope	19
4.1 Quick Menu	19
4.2 Main Menu	20
4.2.1 Thermal	21
4.2.2 Reticles	23
4.2.3 Zeroing Profile	24
4.2.4 Zeroing Setup	25
4.2.5 Ballistic Calculator (for LRF models)	25
4.2.6 Optical Ranging Mode (for non-LRF models)	27
4.2.7 Laser Ranging – Measurement Considerations	27
4.2.8 Gallery	28
4.2.9 RAV (Recoil Activated Video)	28
4.2.10 Functionalities	29
4.2.11 Settings	31

5. System Update34
5.1 Manual Firmware Update34
5.2 Firmware Update via Mobile App35
6. Exporting Files35
7. Important Safety Information.36
8. EU Conformity Statement38

1. PRODUCT INTRODUCTION

The **ThOR 6 Elite Thermal Riflescope** provides high-precision thermal imaging with exceptional clarity and a fast frame rate, ensuring smooth and accurate target tracking even in dynamic environments.

Designed for continuous operation under all lighting and weather conditions, the riflescope detects the thermal signatures of objects, animals, and structures in complete darkness, fog, haze, or intense light — maintaining optimal situational awareness in every scenario.

The **ThOR 6 Elite Thermal Riflescope** is available in two configurations:

ThOR 6 LRF model — equipped with an integrated Laser Range Finder (LRF) for precise distance measurement and enhanced targeting accuracy.

ThOR 6 model — identical in performance, but without the built-in LRF module.

Built for demanding field applications, the **ThOR 6** delivers reliable performance, advanced image processing, and consistent visual quality across a wide range of operational environments.

2. PRODUCT OVERVIEW

2.1 PACKAGE CONTENTS



**ATN ThOR 6
Thermal Scope**



Lens cloth



**2x18650 rechargeable
batteries**



Battery charger



USB Type-C cable



**Heated target for
zeroing**



Carrying bag

2.2 DEVICE DESCRIPTION



* For ThOR 6 LRF models only.

CAUTION!

THIS PRODUCT CONTAINS NATURAL RUBBER LATEX, WHICH MAY CAUSE ALLERGIC REACTIONS

The instructions in this manual are for informational use only and subject to change without notice. This manual is not to be construed as a commitment by ATN Corp. ATN Corp. assumes no responsibility or liability for any errors or inaccuracies that may appear in this book.

©2025 ATN Corp. All rights reserved.

2.3 BUTTON DESCRIPTION

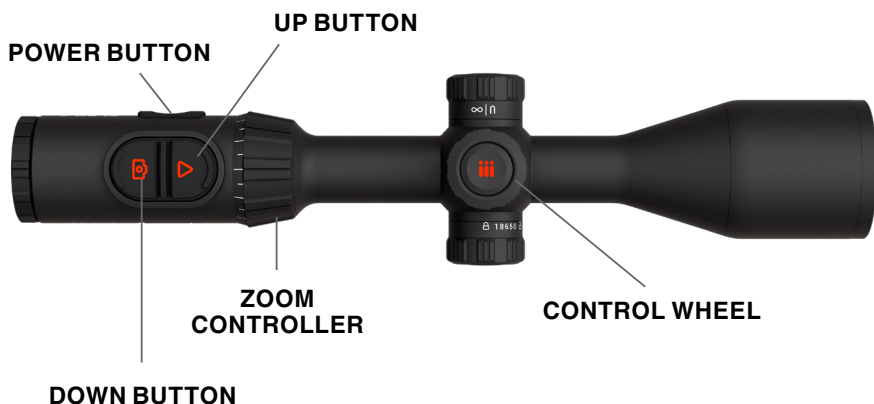


Table 2.3.1 Button description

No.	Button	Current Status	Short Press	Long Press
1	POWER BUTTON	Powered off	—	Power on the device
		Home screen	NUC (Non-Uniformity Correction)	On the Home screen, a 3-2-1 countdown prompt appears: If the Power button is released during the countdown, the device enters into Standby mode. When the countdown completes, the device will power off.
		Quick/ Main menu interface	Return to home screen /Return to the previous interface without saving	
2	UP BUTTON (FOR LRF MODELS)	Home screen	LRF Measurement	Change Palette
	UP BUTTON (FOR NON-LRF MODELS)		Change Palette	—
3	DOWN BUTTON	Home screen	Take a photo	Start/Stop video recording

No.	Button	Current Status	Short Press	Long Press
4	CLICK CONTROL WHEEL	Home screen	Enter the Quick Menu interface	Enter the Main Menu interface
		Quick Menu interface	Adjust parameters	Save and back
		Main Menu interface	Adjust parameters / Enter the submenu	Save and back
		Zeroing/ Pixel Correction interface	Switch the movement direction	Save and back
	ROTATE CONTROL WHEEL	Home screen	——	
		Quick menu interface	Change options and values	
		Main menu interface	Change options and values	
		Zeroing/ Pixel Correction interface	Change reticle position	
5	ZOOM CONTROLLER	Home screen	PIP is ON: zoom PIP image PIP is OFF: zoom main image	
6	FOCUS KNOB	——	Rotate the focus knob to adjust the image	

2.4 SPECIFICATIONS

	ThOR 6 325	ThOR 6 335	ThOR 6 635	ThOR 6 650	ThOR 6 335 LRF	ThOR 6 635 LRF	ThOR 6 650 LRF
Model	TIWST6325A	TIWST6335A	TIWST6635A	TIWST6650A	TIWST6335LRF	TIWST6635LRF	TIWST6650LRF
Detector Type	12 μ m VOx Uncooled Focal Plane Array						
Sensor Resolution	384x288	384x288	640x512	640x512	384x288	640x512	640x512
Refresh Rate	50 Hz						
Thermal Sensitivity (NETD)	≤ 15 mK						
SharpIR[®]	Yes						
Non-Uniformity Correction (NUC)	Auto / Semi Auto / Manual						
Lens System	25 mm (Ge); F/1.0	35 mm (Ge); F/1.0	35 mm (Ge); F/1.0	50 mm (Ge); F/1.0	35 mm (Ge); F/1.0	35 mm (Ge); F/1.0	50 mm (Ge); F/1.0
Field of View (HXV)	10.53° × 7.91°	7.53° × 5.65°	12.52° × 9.41°	8.78° × 6.59°	7.53° × 5.65°	12.52° × 9.41°	8.78° × 6.59°
Focus Mechanism	Manual, Central Knob Control						
Magnification	2.5-20x	3.5-28x	2-16x	3-24x	3.5-28x	2-16x	3-24x
Digital Zoom	1x, 2x, 4x, 8x						
Zoom Type	Step & Smooth Zoom						

	ThOR 6 325	ThOR 6 335	ThOR 6 635	ThOR 6 650	ThOR 6 335 LRF	ThOR 6 635 LRF	ThOR 6 650 LRF
Detection Range	2300 m	2750 m	3100 m	3650 m	2750 m	3100 m	3650 m
Display Resolution	0.49" OLED, 1920x1080 Resolution						
Eye Relief	50 mm						
Diopiter Range	-5 to +5 D						
Picture-in-Picture (PIP)	Yes						
Reticle Types	10 Styles						
Reticle Transparency Control	Yes						
Zeroing Freeze	Yes						
Color Palettes	White Hot, Black Hot, Iron Red, Alarm, Green Hot, Sepia						
Battery Type	1 x 18650 (Internal) & 1 x 18650 Rechargeable (Replaceable)						
Battery Life	~9 hrs						
Supports External Power Supply	Yes, USB Type-C (5 VDC / 2A)						
Standby / Sleep Mode	Yes						
Startup Time	<7 seconds (instant from Standby)						

	ThOR 6 325	ThOR 6 335	ThOR 6 635	ThOR 6 650	ThOR 6 335 LRF	ThOR 6 635 LRF	ThOR 6 650 LRF
Internal Storage Capacity				64 GB			
Video / Audio Recording			Yes				
Internal Gallery			Yes				
Recoil Activated Video (RAV)			Yes				
Media Output				USB Type-C			
Built-in Wi-Fi (Hotspot)			Yes				
App (Apple Store/Google Play)				Yes (ATN Connect 6 – iOS & Android)			
Built-in Laser Rangefinder (LRF)		-				Yes	
LRF Range		-				1000 m	
LRF Accuracy		-				±1 m	
LRF Laser Specs		-				905 nm, Class 1 (Eye Safe)	
Ballistic Calculator		-				Yes	

	ThOR 6 325	ThOR 6 335	ThOR 6 635	ThOR 6 650	ThOR 6 335 LRF	ThOR 6 635 LRF	ThOR 6 650 LRF
Hot Point Tracking	Yes						
Geomagnetic + Gyroscope	Yes						
Material	Magnesium Alloy						
Mounting	30 mm Rings (not included)						
Weight	790 g	830 g	830 g	830 g	830 g	855 g	855 g
Dimensions (L x W x H)	410×85×66 mm	430×85×72 mm	430×85×72 mm	430×85×72 mm	430×85×72 mm	430×85×80 mm	430×85×80 mm
Max Recoil Rating	6000 Joules / 1000g acceleration over 0.4 ms						
Operating Temperature	-30°C to 55°C (-22°F to 131°F)						
Waterproof / IP Rating	IP67						

Actual battery life may vary depending on the frequency of feature usage such as Wi-Fi, video recording, and other power-consuming functions.

Design and software improvements may be implemented to enhance product performance without prior notice.

The latest version of this user manual is available for download at: www.atneu.com.

2.5 MOUNTING THE RIFLESCOPE

Follow the steps below to correctly mount your **ThOR 6 Elite Thermal Rifle scope** onto your weapon rail to ensure secure and accurate alignment.

Steps:

1. Prepare the Mount

Use an Allen wrench to unscrew the top part of the mounting ring.

2. Position the Rifle scope

Place the rifle scope into the bottom half of the mounting ring, ensuring the screw holes on the top and bottom parts align properly.

3. Secure the Top Screws

Insert and tighten the screws to secure the rifle scope within the mounting ring.

Important

Do not exceed a tightening torque of 2 N·m when securing the ring screws.

4. Attach to the Rail

Loosen the screws on the lower half of the ring. Place the assembly onto the rifle's rail and ensure the scope is level.

5. Final Tightening

Tighten all screws evenly to firmly secure the rifle scope to the rail.

Note

The mounting ring is sold separately – please refer to the actual product for compatibility.

Note

Ensure both the rifle scope base and the rail surface are clean. Use a lint-free cloth to remove dust or debris before installation.

Note

Do not overtighten the screws to avoid damaging the mounting system or the rifle scope body.

3. DEVICE OPERATION

3.1 POWER SUPPLY

The rifle scope is powered by a **dual-battery system** – one **built-in rechargeable battery** and one **removable 18650 battery** (included in the package).

You can also charge the device directly via the **USB Type-C port**.

Note

The rifle scope can operate with a single battery, but for extended operation, it is recommended to use both batteries simultaneously.

3.1.1 INSTALLING THE BATTERY

1. Open the cover of the external battery compartment located on the right side of the rifle scope's center section.

2. Insert the provided 18650 battery, ensuring it is installed according to the polarity markings on the device housing.
3. Close and tighten the battery compartment cover securely.

Tip

Use only high-quality, button-top 18650 batteries to ensure proper contact and avoid power interruptions under recoil.

3.1.2 CHARGING THE DEVICE

You can charge the riflescope through the **Type-C port** using the included data cable.

The **battery level indicator** is displayed on the status bar when the device is powered on. Charge the unit promptly when the level is low to ensure proper operation.

Charging Guidelines:

Maintain a battery temperature between 32°F and 140°F during charging.

Always use the **original charging cable** supplied with the device.

Charging Steps:

Open the rubber cover protecting the **Type-C port**.

Connect the provided **Type-C cable** to the port and a power source.

Charging Indicator States:

Red and green flashing alternately – Charging error.

Red light on – Charging in progress.

Green light on – Fully charged.

Light off – Not connected or not charging.

Recommendation

Fully charge the device before first use and recharge every 3–6 months during long-term storage to maintain battery health.

3.2 CONTROLS

When the riflescope is powered on, press and hold the **Control Wheel** to open the main menu.

The functions of the buttons are as follows:

- Rotate the Control Wheel to navigate up or down through the menu.
- Press the Control Wheel to select or confirm a setting.
- Press and hold the Control Wheel or press the Power button to exit the menu.

3.3 POWER ON / OFF

Power On

Press and hold the **Power button** until the ATN logo appears on the display. After startup, remove the **lens cover** before operation.

Power Off

Press and hold the **Power button** until the countdown **3-2-1** finishes. Once the countdown completes, the riflescope will power off automatically.

Standby Mode

To enter **Standby Mode**, press and hold the **Power button**, then **release it before** the countdown **3-2-1** ends.

To wake the riflescope from **Standby Mode**, short-press the **Power button** once.

Tip

If you hold the button until the countdown finishes, the device will shut down completely.

Releasing it early activates Standby Mode, allowing faster wake-up and lower power consumption.

3.4 INITIAL SETUP

When starting the riflescope for the first time, or after performing a factory reset, you will need to set the **language, Wi-Fi password, and device time**.

Step 1: Power On

Press and hold the **Power button** to turn on the riflescope. The **Language Selection** screen will appear.

Step 2: Set Language

1. Rotate the **Control Wheel** to highlight your preferred language.
2. Press the **Control Wheel** to confirm. The **Wi-Fi Password** screen will appear.

Step 3: Set Wi-Fi Password

1. Rotate the **Control Wheel** to select a digit, or choose **Skip** to use the default password "12345678."
2. Press the **Control Wheel** to confirm the selection.
3. Rotate again to adjust the value, then press to save. Repeat steps 1–3 for each digit of the password. Once complete, select **Next** and press the Control Wheel.

Step 4: Set Device Time

1. Rotate the **Control Wheel** to select the time field (hours, minutes, seconds).
2. Press to confirm, then rotate to adjust. Repeat for each field. Once done, select **Next** and press the Control Wheel.

The main viewing screen will appear, and the riflescope is ready for use.

3.5 IMAGE ADJUSTMENT

3.5.1 DIOPTRIC ADJUSTMENT

To achieve a sharp and comfortable view, adjust the **diopter ring** according to your eyesight. It is recommended to perform this adjustment before configuring other settings.

Steps:

1. Aim the riflescope at a well-lit target or a clear background.



2. Look through the eyepiece and slowly rotate the **diopter adjustment ring** clockwise or counterclockwise until the on-screen icons and image appear sharp and clear.

3.5.2 FOCUS ADJUSTMENT

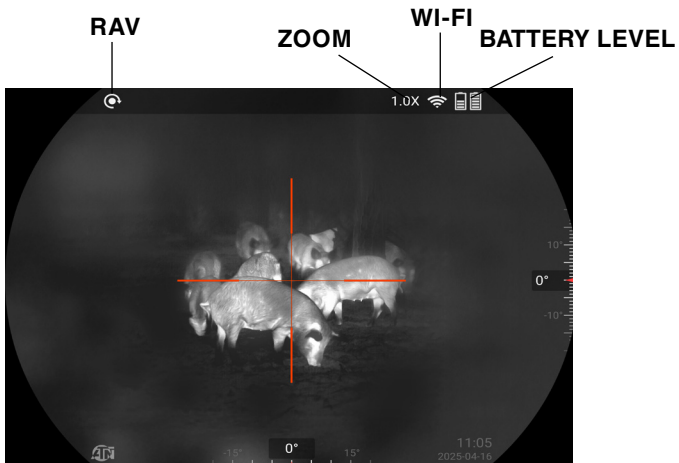
Manually rotate the **Focus knob** to achieve a clear image of the target.

Steps:

1. Aim the riflescope at your target.
2. Rotate the **Focus knob** clockwise or counterclockwise until the image becomes crisp and well-defined.



3.5.3 STATUS BAR DISPLAY



The **Status Bar** provides real-time information such as battery level, zoom, and connection status.







To enable or disable the status bar:

1. **Press and hold** the **Control Wheel** to open the **Main Menu**.
2. **Rotate** the wheel to navigate to **Settings** → **Status Bar**.
3. **Press** the **Control Wheel** to toggle the Status Bar **On** or **Off**.
4. **The status bar** will now appear (or disappear) on the display.

Tip

Keeping the status bar enabled ensures you can monitor key system parameters during operation.

Table 3.5.3 Description of status bar

Icon	Name	Description
	Record Audio	<ul style="list-style-type: none"> • The microphone is active — videos will be recorded with sound. • The microphone is turned off — videos will be recorded without sound.
	RAV	<ul style="list-style-type: none"> • When RAV is enabled, the riflescope automatically starts video recording once the impact sensor detects a shot. • When RAV is disabled, the riflescope will not start recording automatically.
	Digital Zoom	<p>Supports multiple levels of digital zoom. The available zoom magnification may vary depending on the model.</p>
 	Wi-Fi	<ul style="list-style-type: none"> • The Wi-Fi module is active — the device can connect to a smartphone or other devices. • Wi-Fi is turned off — wireless connection is unavailable.
	Battery level	Displays the current battery charge level in real time.

3.5.4 ADJUSTING BRIGHTNESS

Adjusts the overall display brightness. Increasing the level makes the image appear brighter.

To adjust brightness:

1. Press the **Control Wheel** to open the **Quick Menu**.
2. Rotate the **Control Wheel** to select **Brightness**.
3. Press the **Control Wheel** to confirm.
4. Rotate the **Control Wheel** to increase or decrease brightness.

Tip

Higher brightness levels improve visibility in daylight, while lower levels are recommended for night operations.

3.5.5 ADJUSTING SHARPNESS

Controls the clarity of object edges in the image. Higher sharpness levels make contours appear more defined.

To adjust sharpness:

1. Press the **Control Wheel** to open the **Quick Menu**.
2. Rotate the **Control Wheel** to select **Sharpness**.
3. Press the **Control Wheel** to confirm.
4. Rotate the **Control Wheel** to increase or decrease sharpness.

Tip

A moderate sharpness level provides a natural and balanced image.

3.6 VIDEOS RECORDING AND CAPTURING IMAGES

3.6.1 RECORDING VIDEOS

To manually record a video, follow these steps:

1. On the **viewing screen**, **press and hold the Down button for 3 seconds** to start recording.
 - The **recording icon** will flash on the screen.
 - The **recording timer** will appear, showing the elapsed time.
2. To **stop recording**, **press and hold the Down button** again for **3 seconds**.
 - The recording icon will disappear.
 - The video camera icon with a check mark will display briefly on screen.

Tip

Make sure you have enough storage space before recording long videos.

3.6.2 CAPTURING IMAGES

To take a still image:

1. Press the **Down button** once.
2. When the image is successfully saved, a **camera icon** will appear briefly on the screen.

Note

Images are automatically saved in the Gallery and can be viewed or exported later through the Type-C connection.

4. CONFIGURING THE RIFLESCOPE

4.1 QUICK MENU

The **Quick Menu** provides fast access to the most commonly used image settings, allowing you to adjust the display without entering the full system menu.

You can quickly modify **Brightness**, **Sharpness**, **SharpIR**, **Ballistic Calculator** (for LRF models), **Reticule Type**, **Reticule Color** (for non-LRF models), **PIP**.

To access and use the **Quick Menu**:








1. **Press the Control Wheel** to open the **Quick Menu**.
2. **Rotate the Control Wheel** to highlight the parameter you wish to adjust.
3. **Press the Control Wheel** to confirm and modify the selected parameter.
4. **Rotate the Control Wheel** again to fine-tune the value.
5. **Press and hold the Control Wheel** to **exit and save** the configuration.

Tip

The Quick Menu is designed for rapid adjustments in the field—ideal when lighting or environmental conditions change suddenly.



Table 4.1 Quick menu

Icon	Name	Description
	Brightness	Adjusts the overall screen brightness. Increasing brightness helps in daylight, while lowering it improves visibility at night.
	Sharpness	Controls the clarity of image edges. Higher sharpness enhances detail, while lower settings make the image smoother.
	SharpIR	Powered by ATN's proprietary SharpIR® technology , the device uses advanced AI-driven algorithms to enhance image sharpness and clarity in real time. This intelligent processing dynamically refines edge definition and contrast, making it easier to distinguish heat signatures in cluttered or low-visibility environments.
	Ballistic Calculator (for LRF models)	Activating Ballistic Calculator enables automatic bullet drop compensation based on your ballistic profile and environmental data. When turned On, an additional POI reticle appears, indicating the adjusted point of impact according to ballistic calculations. When Off, the riflescope operates in standard mode without ballistic correction.
	Reticle Type	Allows you to select the reticle style that best suits your shooting or observation needs.
	Reticle Color (for non-LRF models)	Changes the color of the reticle for better visibility against different backgrounds.
	PIP (Picture-in-Picture)	Enables a small magnified view of the central area on the screen, helping with precise aiming while maintaining full field awareness.

4.2 MAIN MENU

The **Main Menu** provides access to all advanced configuration options of the riflescope.

Press and hold the **Control Wheel** to open the Main Menu. Rotate the Control Wheel to navigate through the categories and press it to enter a selected item.

MAIN MENU STRUCTURE






1. Thermal
2. Reticles
3. Zeroing Profile
4. Zeroing Setup
5. Ballistic Calculator (for LRF models)
6. Ranging (for non-LRF models)
7. Gallery
8. RAV
9. Functionalities
10. Settings

4.2.1 THERMAL

This section allows you to adjust key image parameters to achieve the best thermal performance under different environmental conditions.

Use it to fine-tune brightness, contrast, sharpness, and color palettes for optimal image clarity, detail, and target detection.

Table 4.2.1 Thermal menu

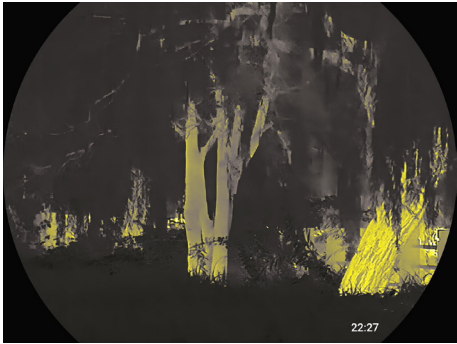
Icon	Name	Description
	Brightness	Adjusts the overall screen brightness. Increasing brightness helps in daylight, while lowering it improves visibility at night.
	Contrast	Adjusts the difference between warm and cold areas to enhance image depth and object separation.
	Sharpness	Controls the clarity of image edges. Higher sharpness enhances detail, while lower settings make the image smoother.
	SharpIR	Enables or disables the SharpIR™ image enhancement algorithm. When enabled, it improves image definition and object contrast.
	Palette	Selects the thermal color scheme used to represent temperature variations on the display.

Available Color Palettes:

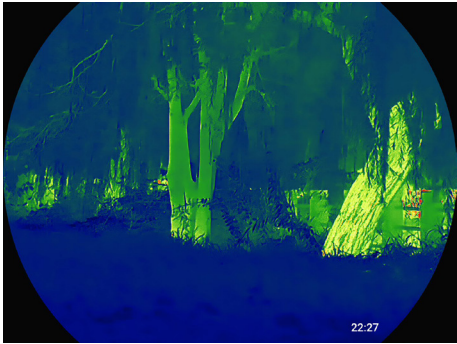
White Hot: Hotter objects appear white. The higher the temperature, the brighter the image.



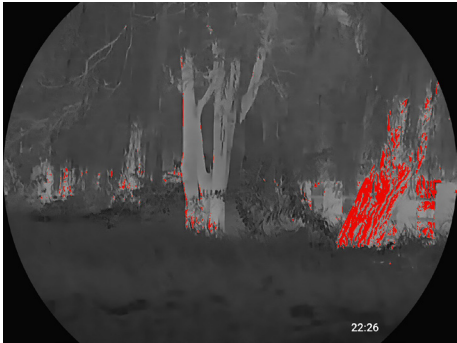
Sepia: Hotter objects appear amber. Higher temperatures produce brighter tones.



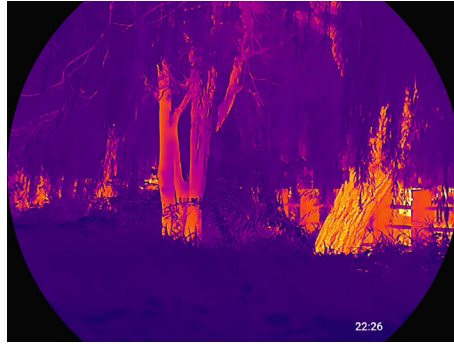
Green Hot: Hotter objects appear green. Brighter green indicates higher heat.



Alarm: Hot objects appear red for quick visual detection.



Iron Red: Hotter objects appear in red or orange tones.



Black Hot: Hotter objects appear darker; colder areas are lighter.



Tip

Choose the palette that provides the best contrast for your environment or preference.

4.2.2 RETICLES

This section allows you to customize the aiming reticle according to your shooting preferences and environmental conditions.

You can adjust the reticle type, color, and transparency to achieve the best visibility and precision under different lighting and background conditions.

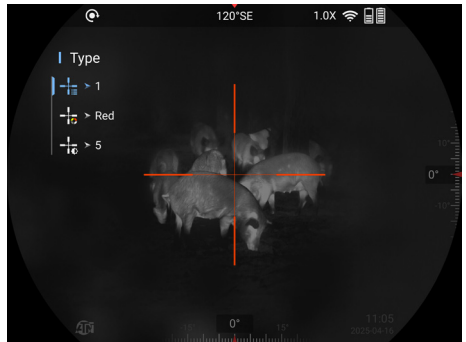





Table 4.2.2 Reticle menu

Icon	Name	Description
	Reticle Type	Choose from multiple reticle designs to match your shooting style and preferences. Different types provide better visibility and alignment for various distances and conditions.
	Reticle Color	Adjust the reticle color to ensure optimal contrast and visibility against different backgrounds and lighting environments. This helps maintain accuracy in diverse field conditions.
	Transparency	Control the reticle's opacity to achieve a comfortable balance between visibility and target clarity, ensuring that the reticle remains clear without obscuring the target image.

4.2.3 ZEROING PROFILE



This menu displays all existing zeroing profiles and allows basic management functions. You can **create** new profiles, **rename** them, or **delete** unnecessary ones.

Table 4.2.3 Zeroing Profile menu

Name	Description
List of Profiles	Displays the list of available zeroing profiles stored in the device. Each profile can contain a unique zeroing configuration, allowing you to maintain different setups for various rifles, ammunition types, or shooting distances.
Add Profile	Create a new zeroing profile. This allows you to store additional zeroing configurations without overwriting existing ones. Each newly added profile can later be customized and renamed for easier recognition.
Delete Profile	Delete the selected zeroing profile from the list. Use this function to remove outdated or unnecessary profiles and keep your list organized. A confirmation prompt will appear before deletion to prevent accidental data loss.
Rename Profile	Rename the selected profile to a custom label that reflects its use — for example, the rifle model, ammunition type, or specific zeroing distance. Custom names make it easier to identify and switch between profiles in the field.

4.2.4 ZEROING SETUP

The Zeroing Setup section allows you to precisely align the riflescope's reticle with the point of impact for each saved profile.

From this menu, you can select the shooting distance, fine-tune reticle position, adjust zoom, and use the freeze-frame function for accurate one-shot zeroing.



Table 4.2.4 Zeroing Setup menu

Icon	Name	Description
	Distance	Select the target distance at which you are performing zeroing. Use the Control Wheel to choose a distance value according to your shooting setup.
	Position Adjustment	Adjust the position of the reticle along the X (horizontal) and Y (vertical) axes to align the point of aim with the actual point of impact. After firing a shot, rotate the Control Wheel to move the reticle to the bullet impact position. Press and hold the Control Wheel to confirm and save the adjustment.
	Zoom	Change the magnification level during the zeroing process for greater precision when aligning the reticle with the impact point. Rotate the Control Wheel to zoom in for fine adjustments or zoom out for a wider field of view.
	Freeze Frame	Capture a still frame of the current image to simplify zeroing. After firing, activate Freeze Frame to lock the display image, then adjust the reticle without worrying about target movement or heat dissipation.

4.2.5 BALLISTIC CALCULATOR (FOR LRF MODELS)

Before configuring **Ballistic Calculator**, complete the zeroing procedure for the selected profile (see **4.2.4 Zeroing Setup**).

The **Ballistic Calculator** feature computes the bullet's point of impact using stored ballistic parameters, environmental data, and the selected zeroing profile. Enable it to get aim corrections automatically for a given range.

To enable and configure Ballistic Calculator

1. Press and hold the **Control Wheel** to open the **Main Menu**.
2. Rotate the **Control Wheel** to highlight the **Ballistic Calculator** and press the Control Wheel to **Enable / Disable** the function:
 - **On**: the riflescope will calculate aim corrections automatically using the parameters below.
 - **Off**: no automatic ballistic corrections will be computed.
3. To set ballistic parameters, rotate to **Parameters** and press the **Control Wheel** to open the configuration screen. Then:
 - Rotate the **Control Wheel** to select a parameter.
 - Press the **Control Wheel** to edit.

- Rotate to change the value and press to save.
- Repeat for each parameter required.

4. Press and hold the Control Wheel to save all changes and exit.

Ballistic Parameters and their description:

Parameter	Description / How to obtain
Zeroing Profile	The zeroing profile currently selected (from Zeroing Profile).
Zeroing Range	The distance saved in the profile for which the zero was performed.
Ballistic Coefficient (BC)	Enter the bullet's BC from the ammunition manufacturer (package or datasheet).
Ballistic Type	Select the ballistic model/type (if applicable) used by the rifle/ammo.
Ballistic Weight	Bullet mass (typically in grains). Enter the value from ammo specs.
Init Velocity	Muzzle velocity (m/s or ft/s) — measured or provided by the ammo manufacturer.
Sight Height	Vertical distance between the bore axis and the rifle-scope optical axis (mm or inches).
Altitude	Shooting site elevation above sea level (meters or feet).
Temperature	Air temperature at the shooting location (°C or °F).
Air Pressure	Current barometric pressure (hPa / mbar or inHg).
Humidity	Relative humidity (%) at the shooting site.
Wind Speed	Wind speed (m/s, km/h or mph) used for drift calculation.
Wind Direction	Wind direction relative to shooting azimuth (e.g., 0° = headwind, 90° = right).

Note

Enter environmental parameters as accurately as possible to improve calculation accuracy. Units follow the device Units setting; ensure consistency.

Save & Exit

After configuring all required fields, **press and hold the Control Wheel** to save the configuration. Confirm when prompted.

Tips

- **Confirm zeroing and ballistic parameters under real conditions (test fire) and adjust values if required.**
- **If you change ammunition, create or update a zeroing profile and ballistic parameters for the new load.**
- **For field use, enable automatic sensors (if available) to populate temperature, pressure, and humidity automatically.**

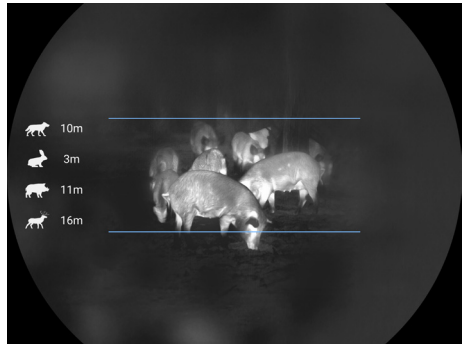
4.2.6 OPTICAL RANGING MODE (FOR NON-LRF MODELS)

This feature allows manual range estimation using the reticle's reference marks or on-screen scale.

It is available **only on rifle scope models that do not include a built-in Laser Range Finder (LRF)**.

For LRF-equipped models, see **Laser Ranging Mode**.

The optical ranging mode estimates the distance to the target by adjusting two horizontal reference lines so that they align with the top and bottom of the target's silhouette.



The system then calculates and displays the approximate distance based on the selected target type and apparent size.

Steps

1. **Press and hold** the **Control Wheel** to open the **Main Menu**.
2. **Rotate** the Control Wheel to highlight Ranging and press to open it.
3. **Rotate** the Control Wheel to move the blue lines until they touch the top and bottom edges of the target.

Once aligned, the system will display the estimated distance between the target and the rifle scope.

Note

The accuracy of optical ranging depends on the steadiness of the device and the size assumptions of the selected animal profile. For higher precision, use models equipped with the integrated LRF.

4.2.7 LASER RANGING – MEASUREMENT CONSIDERATIONS (FOR LRF MODELS)

The **Laser Range Finder (LRF)** measures the distance between the rifle scope and a target by detecting the reflected laser beam.

For optimal accuracy and performance, several environmental and physical factors must be considered.

Suitable Measurement Targets

The LRF is designed to measure distances to targets with different levels of surface reflectivity:

- **High Reflectivity:** Road signs, metal surfaces, or bright reflective panels.
- **Medium Reflectivity:** Building walls, rocks, or painted surfaces.
- **Low Reflectivity:** Trees, utility poles, animals, or dark matte objects.

Note

Targets with extremely low reflectivity (e.g., water, glass, or shiny black surfaces) may not return a measurable signal.

Factors Affecting Ranging Accuracy

- **Target Reflectivity:**

The higher the reflectivity, the greater the effective measurement distance.

- **Target Shape and Size:**
Small, narrow, or irregularly shaped objects provide less reflected laser energy, reducing accuracy and range.
- **Measurement Angle:**
Accuracy is highest when the target surface is perpendicular to the laser beam.
At steep angles, reflection is weakened, causing potential measurement errors or loss of reading.
- **Environmental Conditions:**
Atmospheric factors such as fog, rain, snow, smoke, haze, or direct sunlight can scatter or absorb the laser signal, reducing range performance.

Optimal Conditions for Accurate Measurement

- Target with **medium reflectivity** (e.g., wall).
- Target surface **perpendicular** to the laser beam.
- Weather conditions: **Clear skies**, without direct sunlight or heavy atmospheric interference.

Tip

For consistent accuracy, avoid aiming at water, glass, or moving objects, and perform measurements under stable environmental conditions.

4.2.8 GALLERY

All photos and videos captured on the riflescope are automatically stored in the internal memory.

You can access and review them directly from the device through the **Gallery** menu.

Steps

1. **Press and hold** the **Control Wheel** to open the **Main Menu**.
2. **Rotate** the **Control Wheel** to select **Gallery**, then press to open it.
3. **Browse and view** content:
 - **Rotate** the Control Wheel to scroll through the list of saved images and videos.
 - **Press** the Control Wheel to open and play the selected file.

Tip

Long-press the Control Wheel to exit the Gallery and return to the Main Menu.

4.2.9 RAV (RECOIL ACTIVATED VIDEO)

The **RAV** function automatically starts video recording when the riflescope detects recoil from a shot.

This ensures you never miss a key moment without needing to manually press record.

Steps

1. **Press and hold** the **Control Wheel** to open the **Main Menu**.
2. **Rotate** the Control Wheel to select **RAV**.
3. **Press** the Control Wheel to toggle the feature:
 - **On** — The riflescope will automatically record when recoil is detected.
 - **Off** — Recording will only occur manually when the user presses the record button.

Tip

Ensure the device is securely mounted to detect recoil accurately.

Note




The RAV function may not trigger with low-recoil calibers or when using suppressors.





4.2.10 FUNCTIONALITIES

The Functionalities menu provides access to additional tools and features that enhance the operation and user experience of your riflescope.

These options allow you to customize interface elements, enable useful widgets, and optimize the device for different field conditions.

Table 4.2.10 Functionalities menu

Icon	Name	Description
	Zoom Step	Defines the increment used when changing digital zoom levels. Smaller steps allow for smoother, more precise adjustments, while larger steps enable faster zoom changes.
	Laser Ranging	<p>The LRF Mode defines how the Laser Range Finder operates when measuring distances to a target. To ensure accurate readings, always keep the riflescope steady and avoid aiming at reflective or uneven surfaces.</p> <ul style="list-style-type: none">• Single Measurement: In this mode, the riflescope emits a single laser pulse when you press the Laser button. It measures the distance once and displays the result on the screen. Ideal for quick, one-time measurements on stationary targets.• Continuous Measurement: The riflescope continuously measures the distance to the target for a set duration (15, 30, or 60 seconds), updating the display in real time. This mode is useful for tracking moving targets or when scanning across varied terrain. <p>Note <i>Laser radiation can cause eye injury. Never look directly into the beam or observe it through optical devices.</i></p>
	Compass	<p>When the compass feature is active, the current heading is displayed at the top of the screen.</p> <p>Compass calibration: To begin compass calibration, rotate the riflescope along all three axes within 20 seconds, ensuring each axis completes at least one full 360° rotation.</p> <p>Once the rotation phase is complete, the device will display a pop-up prompting you to point the riflescope north. After aligning the device and confirming the north direction, the calibration process will finalize, and the system will return to the main menu.</p>

Icon	Name	Description
	Burning Warning	When the system detects a potential overheating risk for the sensor, a warning message will appear on the screen and the shutter will automatically close to prevent damage. Recommendation <i>Avoid aiming at extremely hot objects for long durations.</i>
	Pitch & Roll	Displays device tilt and inclination relative to the horizon. These indicators help maintain proper leveling of the riflescope, improving long-range shot consistency. Tip <i>Use this feature to ensure accurate zeroing and stability when shooting from uneven terrain.</i>
	PIP	Displays a magnified section of the thermal image in a small window while keeping the full scene visible. Enhances target precision without losing situational awareness.
	Hot Point	Highlights the hottest object detected in the field of view with a small marker. Useful for quickly locating heat sources such as game, vehicles, or human presence. Note <i>The marker dynamically updates as the scene changes.</i> <i>For more details, see “4.2.10.2 Hot Point Tracking”.</i>

4.2.10.1 PIP (PICTURE-IN-PICTURE) MODE



The **PIP (Picture-in-Picture)** mode allows you to view a magnified portion of the thermal image in a smaller window while maintaining a wide field of view on the main screen.

This helps with precise aiming or observation without losing situational awareness.

Steps:

1. **Press and hold** the **Control Wheel** to open the **main menu**.
2. **Rotate** the Control Wheel to select Functionalities -> PIP.
3. **Press** the Control Wheel to enable or disable PIP mode.

When enabled, a zoomed-in window of the image center will appear at the **top center of the screen**.

Tip

- ***Use PIP mode for accurate long-distance aiming while maintaining visibility of your surroundings.***
- ***PIP settings can also be quickly accessed through the Quick Menu.***

4.2.10.2 HOT POINT TRACKING

The **Hot Point** function automatically detects and marks the hottest object in the visible area, making it easier to identify heat sources in real time.

Steps:

1. **Press** and hold the **Control Wheel** to open the **main menu**.
2. **Rotate** the Control Wheel to select Functionalities -> Hot Point.
3. **Press** the Control Wheel to enable or disable the function.



When enabled, a small **hot point icon** will appear on the screen, continuously tracking the area with the highest temperature.

Note













The Hot Point feature is most effective in stable environments and may fluctuate in scenes with multiple strong heat sources.

4.2.11 SETTINGS

The Settings menu allows you to configure core system parameters, manage power options, and adjust device behavior to match your personal preferences and operational needs.

Table 4.2.11 Settings menu

Icon	Name	Description
	NUC	<p>Corrects temperature drift and sensor noise to maintain image quality.</p> <ul style="list-style-type: none"> • Auto: The system performs NUC automatically when needed. • Semi-Auto: NUC can be triggered manually or occurs occasionally. • Manual: The user can initiate NUC anytime from the menu or by pressing the assigned button. <p>For more details, see “4.2.11.1 Setting NUC”.</p>
	Pixel Correction	<p>Fixes defective (stuck or dead) pixels on the thermal sensor.</p> <ul style="list-style-type: none"> • Auto: The device automatically detects and corrects bad pixels after user confirmation. • Manual: Opens the manual correction menu where you can individually mark and correct defective pixels. • Restore: Restores the default pixel map. <p>For more details, see “4.2.11.2 Setting Pixel Correction”.</p>
	Sleep Mode	<p>Sets the period of inactivity after which the riflescope enters low-power standby mode. Options: Off, 1 min, 3 mins, 5 mins, 10 mins.</p> <p>Note <i>Press any button to wake the device from sleep.</i></p>

Icon	Name	Description
	Shutdown	Specifies the duration of inactivity before the riflescope powers off automatically. Options: Off, 5 mins, 10 mins, 30 mins, 60 mins. Use this feature to conserve battery power during extended downtime.
	Logo	When enabled, the logo appears in the lower-left corner of the screen.
	Record Audio	Press the wheel to enable or disable audio recording. <ul style="list-style-type: none"> • On: Videos are recorded with sound. • Off: Videos are recorded without sound.
	Status Bar	Press the Control Wheel to show or hide the status bar at the top of the screen. For more details, see “3.5.3 Status Bar Display”
	Wi-Fi	<ul style="list-style-type: none"> • Wi-Fi: Turns the wireless connection On/Off for mobile app pairing or file transfer. • Wi-Fi Band: Choose between 5 GHz (faster, shorter range) or 2.4 GHz (slower, longer range). • Wi-Fi Password: Displays the SSID and current password in an information window. For more details, see “4.2.11.3 Wi-Fi Connection Setup”
	USB Mode	<ul style="list-style-type: none"> • ON: The riflescope will function as a storage device for file transfer. • OFF: The USB port will only charge the device.
	Language	Select your preferred interface language.
	Units	Switch between Metric and Imperial measurement systems.
	Time Settings	<ul style="list-style-type: none"> • Time Display: Enable or disable on-screen time display. • Time Format: Choose the preferred date/time format. • Date & Time: Manually set the current date and time using the Control Wheel to adjust each value.
	Device Info	Device Information page, displaying firmware version, serial number, and other system data.
	Restore Default	Resets all menu parameters and user configurations to their factory defaults.
	Format	Deletes all images and videos stored in the device memory.

4.2.11.1 SETTING NUC (NON-UNIFORMITY CORRECTION)

NUC (Non-Uniformity Correction), is used to optimize the thermal image by compensating for small temperature variations across the sensor. This process ensures uniformity and helps detect even subtle temperature changes more accurately.

Procedure

1. Press and hold the **Control Wheel** to open the **Main Menu**.
2. Rotate the Control Wheel to select **Settings** → **NUC**.

3. Press the Control Wheel to access the **NUC configuration screen**.

Modes

- **Auto:**

The riflescope performs automatic flat-field calibration at regular intervals. This helps maintain consistent image quality during long observation periods.

- **Semi-Auto:**

Press the **Power button** on the viewing screen to manually trigger calibration at any time. Recommended when the image appears slightly uneven or blurry.

- **Manual:**

Close the lens cap, then press the **Power button** to manually perform calibration. This is useful for precise control or when environmental conditions (e.g., rapid temperature changes) affect image stability.

Tip

Regularly performing NUC ensures the best image uniformity and helps eliminate fixed-pattern noise, especially after large temperature fluctuations.

4.2.11.2 SETTING PIXEL CORRECTION

The **Pixel Correction** function allows you to fix defective (hot, dead, or stuck) pixels on the thermal sensor to maintain a clean, high-quality image.

Procedure

1. Press and hold the **Control Wheel** to open the **Main Menu**.
2. Rotate the **Control Wheel** to select **Settings** → **Pixel Correction**.
3. Press the **Control Wheel** to open the Pixel Correction configuration screen.

Modes

- **Auto:**

The riflescope automatically detects and corrects defective pixels.

1. Select **Auto**.

2. Follow on-screen instructions to **close the lens cap**.

3. Rotate the Control Wheel to select **Confirm**, then press the Control Wheel to begin correction.

- **Manual:**

Allows you to manually locate and correct defective pixels.

1. Press the Control Wheel to select **X-axis** and **Y-axis**.

2. Rotate the Control Wheel to move the cursor over the defective pixel.

3. Double-press the Control Wheel to save the correction. The center of the cursor marks the corrected pixel.

- **Restore:**

Restores the pixel correction map to its factory default state.

A confirmation message appears once the reset is complete.

Tip

Run Pixel Correction if you notice fixed bright or dark points that do not move with the image — this will recalibrate your thermal sensor for optimal image quality.

4.2.11.3 WI-FI CONNECTION SETUP



After enabling Wi-Fi, the riflescope creates its own wireless hotspot, allowing you to connect a smartphone or tablet and access live view, media files, or control features through the ATN mobile app.

Connection Procedure

1. On your smartphone, open the App Store (iOS) or Google Play (Android) and search for “**ATN Connect 6**” to download and install the application.
2. Press and hold the **Control Wheel** to open the **Main Menu**.
3. Rotate the Control Wheel to select **Settings > Wi-Fi**, then press the Control Wheel to enter.
4. Enable **Wi-Fi**. The device will broadcast its hotspot with the following credentials:
 - **Wi-Fi Name (SSID)**: You can find it on the label attached to the lens cap, or by navigating to **Main Menu → Settings → Wi-Fi Password**.
 - **Password**: The password you created during the initial setup. If you skipped that step, the default password is **12345678**. (See “3.4 Initial Setup” for details.)
5. Then launch the **ATN Connect 6**, choose the device, and follow the on-screen prompts.

Note

The Wi-Fi password can also be changed directly through the ATN Connect 6 mobile app in the Settings section.

Switching Wi-Fi Band

In the **Wi-Fi Settings** menu, select **Wi-Fi Band** and rotate the **Control Wheel** to choose between:

- 2.4 GHz: Longer range, more stable connection in open areas.
- 5 GHz: Faster data transfer speed and lower latency for close-range use.

5. SYSTEM UPDATE

You can update the riflescope firmware **manually** using a USB connection.

Note

Always ensure the device battery level is above 30% before starting the update. If the charge is below this level, the update will be blocked and a notification will appear prompting you to recharge the device.

5.1 MANUAL FIRMWARE UPDATE

Follow these steps to update the firmware manually:

1. **Download** the latest firmware file from the official ATN website.
2. **Copy** the firmware file (.bin) to the **root directory** of the riflescope's internal storage.
3. **Disconnect** the device safely from the computer.

4. **Reboot** the device.
5. When a new firmware version is detected, a message will appear: *“A newer firmware version has been found. Update now?”*
6. **Confirm** by selecting OK with the Control Wheel.
7. The update process will begin automatically.

Note

During Update: Do not power off or disconnect the device. The process may take several minutes.

If the installed firmware is already the latest version, a message will appear: *“The device is already up to date.”*

If the battery charge is insufficient, the message will state:

“Low battery. Please charge before updating.”

After a successful update, the riflescope will automatically restart.

5.2 FIRMWARE UPDATE VIA MOBILE APP

When the mobile app detects a new firmware version available for your riflescope, it will display a notification on your screen.

1. **Open the app** and connect to your device via Wi-Fi.
2. When prompted, tap **Push-message** to begin the update process.
3. The firmware will download and install automatically.
4. Once the installation is complete, the riflescope will restart to finalize the update.

Note

Keep your phone close to the device and ensure a stable Wi-Fi connection throughout the process. Interrupting the update may cause firmware corruption or incomplete installation.

6. EXPORTING FILES

You can transfer recorded videos and captured images from the riflescope to a computer via a **USB Type-C** connection for viewing, editing, or storage.

Steps

1. Connect to a Computer

- Use a **Type-C data** cable to connect the riflescope to your computer.
- The driver will install automatically during the first connection.

Important

Connect the cable before powering on the riflescope. Avoid hot-swapping the Type-C port while the device is running.

2. Enable USB Mode

- When prompted on the riflescope screen, select **USB Mode** → **On** to activate file transfer.

3. Access Files on the Computer

- On your desktop, open **This PC (My Computer)** → locate and open the **riflescope drive** under **Removable Storage**.
- Browse to find your photo and video files.
- **Copy** the desired files to your computer.

4. Playback

- To view exported videos, use a compatible **media player** for optimal performance.

5. Disconnect Safely

- When finished, safely eject the drive and disconnect the Type-C cable.

Tip

Keep the device powered and stable during file transfer to avoid data corruption.

7. IMPORTANT SAFETY INFORMATION

This section provides essential information on the **safe handling and operation** of the device.

Please read this section carefully before use to **avoid personal injury, prevent equipment damage, and ensure reliable performance.**

Follow all safety instructions and warnings strictly during operation, transportation, and maintenance of the device.

Transportation Requirements

- Transport the device only within the **recommended temperature and humidity limits.**
- Avoid **drops, impacts, excessive vibration, or liquid exposure** during transport. Handle the device gently to prevent internal damage or loose cable connections.
- Always use the **original packaging** or equivalent protective materials. Transporting the device without proper packaging may result in damage.

Storage Requirements

- Store the device within the **allowed temperature and humidity range.**
- Keep it away from **humid, dusty, extremely hot or cold environments,** and areas with **strong electromagnetic radiation or unstable lighting.**
- Avoid squeezing, vibration, or mechanical shock during storage.
- Store the device in a **well-ventilated, dry area** free from electromagnetic interference.
- If storing for long periods, **fully recharge the battery every six months** to maintain performance and prevent damage.

Operation Requirements

- Prevent liquids from entering the device to avoid internal damage.
- Do not insert foreign objects into any openings — this may cause a short circuit or injury.
- Avoid high-dust or high-radiation environments.
- Never aim the lens at the **sun or intense light sources,** as this can permanently damage the sensor.
- Improper battery use or replacement may cause an **explosion hazard.**
- Use only the **provided charger** and ensure no flammable materials are within **2 meters** during charging.
- Ensure the power plug is securely connected to the socket.
- Do not connect multiple devices to one power adapter to avoid **overheating or fire hazards.**
- If **smoke, odor, or abnormal noise** occurs, immediately power off the device, unplug it, and contact customer service.

- Do not disassemble the device. Repairs must be performed by **qualified professionals** only. Unauthorized disassembly may cause water ingress or image quality degradation.
- **Operating temperature:** -22°F to +121°F; **humidity:** ≤95% RH.

Maintenance and Repair Requirements

- Prevent liquids from entering the device. If liquid intrusion occurs, **power off immediately**, disconnect all cables, and contact customer service.
- Use only **manufacturer-approved accessories**. Maintenance should be performed by qualified technicians.
- Disconnect power before cleaning to prevent electric shock.
- Clean the device using a **soft, dry cloth**. For stubborn dirt, lightly dampen the cloth with neutral detergent and wipe gently, then dry completely.
- **Do not use** alcohol, benzene, thinner, or abrasive cleaners — they can damage the coating and impair performance.
- Retain the **original packaging**. If service is required, pack the device securely in its factory packaging before shipping.

Laser Safety Requirements


Warning





The integrated laser can cause permanent eye injury.

- ***Never look directly into the laser beam or through optical instruments while the laser is active.***
- ***Always ensure the laser is used in compliance with local safety regulations.***

8. EU CONFORMITY STATEMENT

 This product and, where applicable, the supplied accessories are CE marked and comply with the applicable harmonized European Union legislation. This equipment is in conformity with: Directive 2014/53/EU (Radio Equipment Directive – RED)/ Directive 2011/65/EU (Restriction of Hazardous Substances – RoHS) / Regulation (EU) 2023/1542 on batteries and waste batteries /Directive 2012/19/EU (Waste Electrical and Electronic Equipment – WEEE). The full EU Declaration of Conformity is available via the QR code below or upon request from the manufacturer.

 In accordance with Directive 2012/19/EU, this product shall not be disposed of as unsorted municipal waste. For proper recycling, return the product to your supplier upon purchase of equivalent new equipment or dispose of it at designated collection facilities in accordance with local regulations.

 This product contains rechargeable lithium-ion batteries. In accordance with Regulation (EU) 2023/1542, batteries are subject to separate collection and recycling requirements and shall not be disposed of as unsorted municipal waste. The removable 18650 battery may be replaced by the end-user in accordance with the instructions provided in this manual. The internal rechargeable battery is incorporated into the device. Battery servicing or replacement shall be performed only by qualified service personnel. Improper handling of lithium-ion batteries may result in fire, explosion, or injury.

Scan the QR code below to access the EU Declaration of Conformity for this product.





ATN EUROPE LTD

1588, SOFIA, BULGARIA, UL. "OKOLOVRASTEN PAT" 456B

INTER LOGISTIC PARK

PHONE: +359 32570140

E-MAIL:

SUPPORT@ATNEU.COM; SALES@ATNEU.COM

WWW.ATNEU.COM