Binox 6 Dual

MULTISPECTRAL BINOCULAR

MANUAL

AMERICAN
TECHNOLOGIES
NETWORK CORP.

Welcome to the ATN Family!

Thank you for choosing the **Binox 6 Dual Multispectral Binocular!**

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
V1.0.0	First release	November 2025

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

1. PRODUCT INTRODUCTION

The **Binox 6 Dual Multispectral Binocular** delivers advanced thermal and digital imaging performance with exceptional clarity and a fast refresh rate, ensuring smooth and accurate observation even in dynamic environments.

Designed for reliable operation in all lighting and weather conditions, the binocular detects both **thermal and visible-light signatures** of objects, animals, and structures in complete darkness, fog, haze, or bright light - maintaining maximum situational awareness in any scenario.

The **Binox 6** is equipped with an **integrated Laser Range Finder (LRF)** for precise distance measurement, enhancing target identification and range estimation capabilities.

Built for professional and field applications, the **Binox 6 Dual Multispectral Binocular** combines **robust construction, intelligent image processing, and long operational endurance** — delivering dependable performance and high-quality imagery in the most challenging environments.

2. PRODUCT OVERVIEW

2.1 PACKAGE CONTENTS

Lens cloth

Binox 6 Dual Multispectral Binocular

Battery charger

Data cable

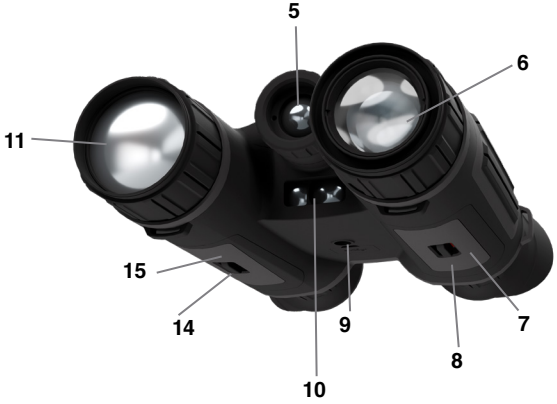
Lens caps

2x18650 rechargeable batteries

Portable bag

Neck strap

2.2 COMPONENT DESCRIPTION



CAUTION!

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

Table 2.2.1 Component description

No.	Component	Current Status
1&13	Eyeshade	Protects the eyes from glare and improves viewing comfort.
2&12	Diopter Adjustment Ring	Adjust the ring according to your eyesight for a clear image.
3	Focus Ring for Day/ Night Image	Manually rotate to adjust the focus for a clear visible image.
4	Focus Ring for Thermal Image	Manually rotate to adjust the focus for a clear thermal image.
5	IR Module	Enhances visibility in dark environments using infrared illumination. The IR illuminator is replaceable. ***WARNING*** ***Laser radiation can damage eyesight. Do not look directly at the beam or view it through optical instruments when active.***
6	Visible Lens	Used for Day/Night Image.
7&15	Battery Compartment	Holds the external replaceable battery.
8&14	Battery Compartment Switch	Locks or unlocks the battery compartment cover.
9	Type-C Port	• Connects to a data cable for charging. • Connects the binocular to a computer for file export.

No.	Component	Current Status
10	**Laser Range Finder (LRF)**	Measures the distance between the binocular and the target using a laser beam. ***WARNING*** ***Laser radiation can damage eyesight. Do not look directly at the beam or observe it through optical instruments when active.***
11	**Thermal Lens**	Captures thermal images based on heat signatures.

2.3 BUTTON DESCRIPTION

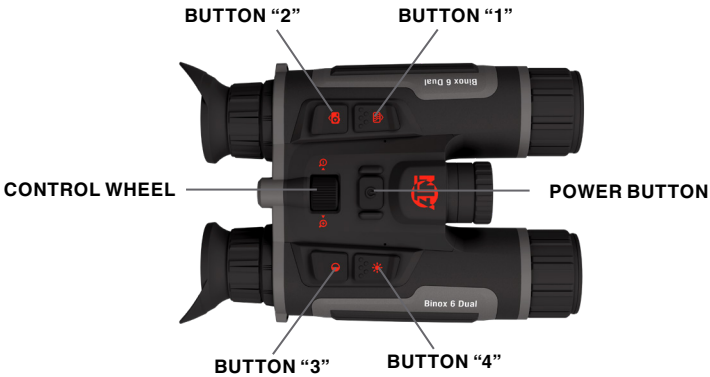


Table 2.3.1 Button description

Button	Current Status	Short Press	Long Press
POWER BUTTON	Powered off	———	Power on the device
	Home screen	NUC (Non-Uniformity Correction) for Thermal	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.
	Main menu interface	Return to Home screen with saving	
BUTTON "1"	Home screen	Activate the selected LRF measurement mode	———
	Main Menu interface	Up button	———
BUTTON "2"	Home screen	Take a photo	Start/Stop video recording
	Main Menu interface	Down button	———
BUTTON "3"	Home screen	Switching between modes and active palettes	Activation, deactivation, and switching between PiP modes
BUTTON "4"	Home screen	Activate the selected IR Illuminator mode	———

Button	Current Status	Short Press	Long Press
CLICK ON CONTROL WHEEL	Home screen	_____	_____
	Main Menu interface		Save and back to the previous level
	Pixel Correction interface	Switch the movement direction	_____
ROTATE CONTROL WHEEL	Home screen	PIP is ON: rotate, electronic zoom PIP image PIP is OFF: rotate, electronic zoom image	
	Main Menu interface	Rotate, switch the Main menu options	
	Pixel Correction interface	Rotate, move the reticle position	

2.4 SPECIFICATIONS

	Model	MSBNB6225A	MSBNB6335A	MSBNB6635A
THERMAL	Detector Type	12µm VOx Uncooled Focal Plane Array		
	Thermal Sensor Resolution	256×192	384×288	640×512
	Refresh Rate	50 Hz		
	Thermal Sensitivity (NETD)	≤15mK		
	SharpIR©	Yes		
	Non-Uniformity Correction (NUC)	Auto / Semi Auto / Manual		
	Thermal Lens System	25 mm; F/0.9	35 mm; F/0.9	35 mm (Ge); F/1.0
	Thermal Field of View (HxV)	7.0° × 5.3°	7.53° × 5.65°	12.52° × 9.41°
	Focus Mechanism	Manual, Front Lens Adjustment		
	Magnification	6-48x	5.5-44x	3-24x
	Digital Zoom	1x, 2x, 4x, 8x		
	Minimum Focus Distance	3 m	5 m	5 m
	Detection Range	1500 m	2750 m	3100 m
	Color Palettes	White Hot, Black Hot, Iron Red, Alarm, Green Hot, Sepia		
	Wide Dynamic Range	Yes		

	Model	MSBNB6225A	MSBNB6335A	MSBNB6635A
CMOS	Day/Night Sensor Type	1.8” CMOS Sensor		
	Sensor Resolution	3840×2160 Ultra HD (4K)		
	Day Lens System	55 mm; F/2.0		
	Day Lens Field of View (HxV)	8.0° × 4.5°		
	Focus Mechanism	Manual, Front Lens Adjustment		
	Magnification	5.5-44×		
	Night Vision Mode	Yes		
	Twilight Mode	Yes		
	Smart IR	Yes		
	IR Illuminator	Yes		
	IR Illuminator Settings	Low, Medium, High		
	IR Illuminator Wavelength	850 nm / 940 nm		
	Replaceable IR Illuminator	Yes		
	Effective Distance at Night	400 m		
GENERAL	LRF Range	1000 m		
	LRF Accuracy	±1 m		
	LRF Laser Specs	905 nm, Class 1 (Eye Safe)		

	Model	MSBNB6225A	MSBNB6335A	MSBNB6635A
GENERAL	Display Resolution	0.49” OLED, 1920×1080 Resolution		
	Exit Pupil	20 mm		
	Eye Relief	15 mm		
	Diopter Adjustment Range	-5 to +5 D		
	Interpupillary Adjustment Range	60 mm to 74 mm		
	Internal Storage Capacity	64 GB		
	Picture-in-Picture (PIP)	Yes		
	Geomagnetic + Gyroscope	Yes		
	GPS	Yes		
	Compass	Yes		
	Video / Audio Recording	Yes		
	Image Capture	Yes		
	DeFog	Yes		
	Hot Point Tracking	Yes		
	Internal Gallery	Yes		
	Standby / Sleep Mode	Yes		
	Startup Time	<7 seconds (instant from Standby)		

	Model	MSBNB6225A	MSBNB6335A	MSBNB6635A
GENERAL	Media Output	USB Type-C		
	Built-in Wi-Fi (Hotspot)	Yes		
	App (Apple Store / Google Play)	Yes (ATN Connect 6 – iOS & Android)		
	Battery	2 × 18650 Rechargeable (Replaceable)		
	Battery Life	~8 hrs		
	Supports External Power Supply	Yes, USB Type-C (5 VDC / 2A)		
	Material	Magnesium Alloy		
	Weight	710 g / 1.56 lbs	720 g / 1.59 lbs	730 g / 1.61 lbs
	Dimensions (L x W x H)	210×184.5×55 mm (8.27×7.26×2.17 in)		
	Mounting	Standard Tripod Mount		
	Working 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.atncorp.com**

3. DEVICE OPERATION

3.1 POWER SUPPLY

The **Binox 6 Dual Multispectral Binocular** is powered by **two removable 18650 rechargeable batteries** (included in the package).

You can also charge the internal battery via the **USB Type-C port**.

NOTE

The binocular can operate with a single battery; however, for extended usage and stable performance, it is recommended to install and use both batteries simultaneously.

3.1.1 INSTALLING THE BATTERIES

1. **Open the battery compartment cover** on each side of the binocular's center housing.
2. **Insert one 18650 battery into each compartment**, making sure the battery orientation matches the polarity markings inside the housing.
3. **Close and firmly secure both battery compartment covers using the locking mechanism.**

- **Locked (Closed) Position:**
  - The **red indicators** become fully visible.
  - This confirms that the covers are properly secured and stable power contact is ensured.
- **Unlocked (Open) Position:**
  - The **black indicators** are visible.
  - This means the covers are not fully closed, and the device may lose power due to poor battery contact.

TIP

Always use high-quality, button-top 18650 batteries to ensure reliable power contact and prevent interruptions during operation.

3.1.2 CHARGING THE DEVICE

You can charge the **Binox 6 Dual Multispectral Binocular** through the **USB 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 binocular promptly when the level is low to ensure continuous operation.

Charging Guidelines:

- Maintain a **battery temperature between 0 °C and +60 °C (32 °F – 140 °F)** during charging.
- Always use the **original charging cable** supplied with the device.

Charging Steps:

1. Open the rubber cover protecting the **Type-C port**.
2. **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 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 binocular 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 binocular 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.

3.3 CONTROLS

When the binocular is powered on, **press the Control Wheel** to open the **Main Menu**.

Use the **Control Wheel** to **navigate** through all functions.

Control Operations

- **Rotate the Control Wheel** — Move the selection cursor up or down through menu options.
- **Press the Control Wheel** — Confirm or enter the selected setting.
- **Press and hold the Control Wheel**, or **press the Power button** — Exit the current menu or return to the live view screen.

TIP

The control system is designed for one-handed operation, allowing quick access to settings without interrupting your observation experience.

3.4 INITIAL SETUP

When starting the binocular 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 binocular. 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 binocular is ready for use.

3.5 IMAGE ADJUSTMENT

3.5.1 DIOPTER 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 binocular 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**.

TIP

Each eyepiece can be adjusted independently for perfect clarity — ensure both sides are focused according to your vision.

3.5.2 ADJUSTING INTERPUPILLARY DISTANCE

To achieve a clear and comfortable viewing experience, adjust the **interpupillary distance** between the eyepieces to match the distance between your eyes.

It is recommended to perform this adjustment before using other device functions.

Steps:

1. Aim the binoculars at a target and bring your eyes close to the eyecups.
2. Slowly **move the eyepieces closer together or farther apart** until the two circular images merge into one clear, unified view.

TIP

Proper adjustment reduces eye strain and ensures optimal image clarity during extended use.

3.5.3 FOCUS ADJUSTMENT

Manually adjust the **focus ring** to achieve a clear, well-defined image of your target.

Each lens (thermal and visible) is equipped with its own focus ring for precise adjustment.

Steps:

1. Aim the binocular at your target or object of interest.
2. Slowly **rotate the focus** ring clockwise or counterclockwise until the image appears **sharp and detailed**.
3. Repeat the adjustment for both lenses if needed to ensure optimal clarity in both thermal and visible modes.

NOTE

To switch between thermal and visible modes, short press Button "3."

3.5.4 ADJUSTING IR ILLUMINATOR

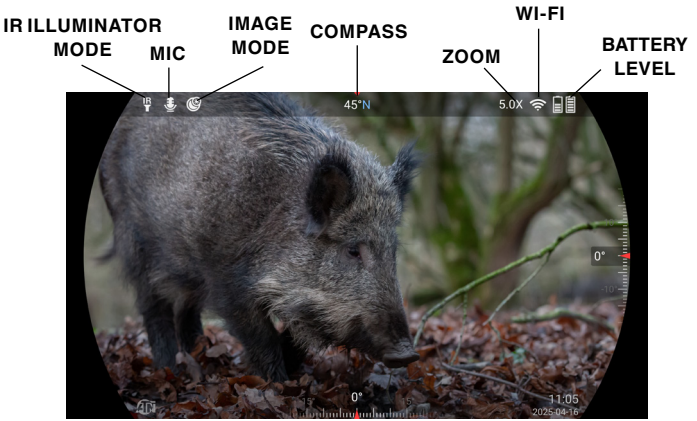
Rotate the **IR illuminator adjusting ring** to adjust the width and intensity of the light beam.

- A **wider beam angle** provides broader coverage but reduces light intensity.
- A **narrower beam angle** produces a stronger, more concentrated beam suitable for long-distance observation.

NOTE

Use the IR illuminator only when necessary to preserve battery life and minimize visibility to others. For more details, see "4.1.5. IR Light".

3.5.5 STATUS BAR DISPLAY



The **Status Bar** provides essential real-time information about the device's operational state, including connectivity, power, and feature indicators.

To enable or disable the status bar:

1. **Press** the **Control Wheel** to open the **Main Menu**.
2. **Rotate** the wheel to navigate to **Functionalities → 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 3.5.5 Description of status bar

Icon	Name	Description
	**IR illuminator**	Displays the current IR intensity mode (Off, Low, Medium, High, Smart).
	**MIC**	• The microphone is active — videos will be recorded **with sound**. • The microphone is turned off — videos will be recorded **without sound.**
	**Image mode**	Displays the current image mode.
	**Compass**	Displays the current heading direction in degrees & cardinal points.
	**Digital zoom**	**Supports multiple levels of digital zoom.** The available zoom magnification may vary depending on the model.
	**Wi-Fi**	• 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.

3.5.6 SWITCHING BETWEEN THERMAL AND OPTICAL CHANNELS

The binocular features both **thermal** and **visible (optical)** imaging channels, allowing the user to seamlessly switch between them for optimal performance in various lighting conditions.

To switch between channels, follow these steps:

1. Make sure **Picture-in-Picture (PIP)** mode is **disabled**.
   - Press and hold **Button "3"** until the PIP window disappears from the screen.
2. Once PIP is off, **short-press Button "3"** to switch between available channels. The modes will cycle: **Day → Twilight →Night → Thermal**.

Each mode loads its corresponding active color palettes and image parameters.

3.6 VIDEOS RECORDING AND CAPTURING IMAGES

3.6.1 RECORDING VIDEOS

To record a video, follow these steps:

1. On the **viewing screen, press** and **hold the Button"2"** 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 **Button"2"** again for **3 seconds.**
   - The recording icon will disappear.
   - An icon in the form of a video camera with a check mark appears on the 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 **Button"2"** once.
2. When the image is successfully saved, a **camera icon** will appear briefly on the screen.

NOTE

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

4. CONFIGURING THE BINOCULAR

4.1 MAIN MENU OVERVIEW

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

Press the **Control Wheel** to open the menu. Rotate the wheel to navigate through categories and press it to confirm a selection.

All settings are grouped into logical sections, allowing you to quickly adjust image parameters, manage functionalities, and configure system preferences for both **thermal and visible channels**.

MAIN MENU STRUCTURE

1. **Defog**
2. **EIS (Electronic Image Stabilization)**
3. **Scene Mode**
4. **Image Mode**
5. **IR Light**
6. **Gallery**
7. **Functionalities**
8. **Settings**

4.1.1 DEFOG

The **Defog** feature enhances image clarity in foggy, misty, or hazy environments by optimizing image contrast and sharpness.

Steps:

1. Press the **Control Wheel** to open the **Main Menu**.
2. Rotate the **Control Wheel** to select **Defog**.
3. Press the **Control Wheel** to enable or disable the Defog function.

4.1.2 EIS

The **Electronic Image Stabilization (EIS)** feature reduces image blur and compensates for small hand movements or vibrations, ensuring a smoother and more stable viewing experience.

Steps:

1. Press the **Control Wheel** to open the **Main Menu**.
2. Rotate the **Control Wheel** to select **EIS**.
3. Press the **Control Wheel** to enable or disable the function.

4.1.3 SCENE MODE

The **Scene Mode** allows you to optimize image performance based on lighting conditions. The binocular automatically adjusts image parameters such as brightness, contrast, and color balance for each mode.

Steps:

1. Press the **Control Wheel** to open the **Main Menu**.
2. Rotate the **Control Wheel** to select **Scene Mode**.
3. Press the **Control Wheel** to confirm.
4. Rotate the wheel to choose one of the available modes, then press to apply.

Available Modes:

Day — Ideal for daytime and bright environments. The IR illuminator remains **off** in this mode.

Night — Optimized for nighttime or low-light conditions. The IR illuminator remains **on** in this mode.

Auto — Automatically switches between Day and Night modes based on ambient light levels.

TIP

For best results, use Auto Mode when operating in changing light conditions such as dawn or dusk.

4.1.4 IMAGE MODE

The **Image Mode** menu allows you to individually adjust image parameters for each viewing mode — Day Light, Night Light, Twilight, Thermal — to achieve optimal performance under different lighting conditions.

When a mode is selected, the binocular temporarily switches to that mode so the user can fine-tune its visual parameters in real time.

Steps:

1. Press the **Control Wheel** to open the **Main Menu**.
2. Rotate the **Control Wheel** to select **Image Mode**, then press to confirm.
3. Rotate the wheel to choose the mode you want to configure (**Day Light, Night Light, Twilight, Thermal**), then press to enter the settings screen.

Day Mode Settings

The **Day Mode** is optimized for use in bright daylight conditions, providing a vivid and natural color image with adjustable picture parameters to match your environment.

When entering this menu, the binocular automatically switches to Day Mode so you can fine-tune settings in real time.

Table 4.1.4.1 Description of Day Light settings

Icon	Name	Description
	**Brightness**	Controls overall screen luminance. Higher values make the image brighter in strong daylight.
	**Contrast**	Adjusts the difference between light and dark areas. Higher values enhance image depth and target separation.
	**Sharpness**	Defines the clarity of edges and fine details. Increasing sharpness enhances texture but may introduce slight noise in bright scenes.
	**Palette**	Select default color palettes for current Image Mode.

Night Light Mode Settings

The **Night Light Mode** is designed for operation in dark or low-light environments.

This mode optimizes the binocular's visible imaging channel and can be used with or without the IR illuminator, depending on ambient light conditions.

When entering this menu, the binocular automatically switches to Night Light Mode so the user can fine-tune settings in real time.

Table 4.1.4.2 Description of Night Light settings

Icon	Name	Description
	**Brightness**	Adjusts overall screen brightness. Higher levels make the image brighter, but excessive brightness can reduce contrast in very dark scenes.
	**Contrast**	Increases or decreases the difference between light and dark areas to reveal more detail in shadowed zones.
	**Sharpness**	Enhances the clarity and definition of fine details.
	**Palette**	Select default color palettes for current Image Mode.

Twilight Mode Settings

The **Twilight Mode** is optimized for use during dawn or dusk — transitional lighting conditions where neither full daylight nor total darkness is present.

This mode enhances contrast and brightness balance to maintain clear visibility when ambient light levels are rapidly changing.

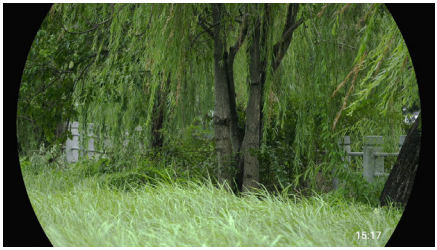
When entering this menu, the binocular automatically switches to Twilight Mode so you can fine-tune the image in real time.

Table 4.1.4.3 Description of Twilight Light settings

Icon	Name	Description
	Brightness	Controls the screen brightness. Adjust according to ambient light — lower levels for darker twilight, higher levels for bright dusk or dawn.
	Contrast	Increases the distinction between bright and dark areas to enhance object visibility in hazy or diffused light.
	Sharpness	Defines image detail and edge clarity, ensuring targets remain well-defined in low-contrast lighting.
	Palette	Select default color palettes for current Image Mode.

Available Visible Palettes:

Day: Provides a full-spectrum, true-to-life image for daylight operation. This mode delivers natural color balance and maximum visual realism — ideal for general observation and target recognition in well-lit environments.



Night: Converts the image to high-contrast monochrome. This palette enhances detail perception and contour visibility, especially in uneven lighting or when color distractions need to be minimized.

Yellow: Highlights warm tones and increases contrast in fog, haze, or twilight conditions. The Yellow palette enhances definition and depth, making it easier to detect subtle shapes and distant objects.

Green: Highlights warm tones and increases contrast in fog, haze, or twilight conditions. The Yellow palette enhances definition and depth, making it easier to detect subtle shapes and distant objects.

Thermal Mode Settings

The **Thermal Mode** allows observation based on heat signatures, providing clear visibility regardless of lighting conditions — day or night.

This mode is ideal for detecting warm objects such as animals or heat-emitting structures through fog, smoke, or complete darkness.

When entering this menu, the binocular automatically switches to Thermal Mode, allowing you to preview adjustments in real time.

Table 4.1.4.4 Description of Twilight Light settings

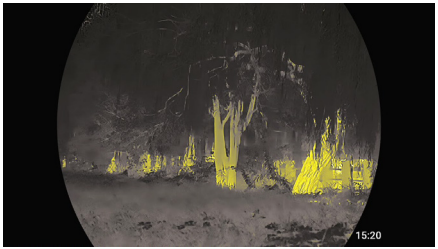
Icon	Name	Description
	Forest Mode	Forest Mode enhances visibility in natural, cluttered environments by emphasizing heat-emitting targets. When enabled, the binocular automatically highlights objects with higher temperatures - such as animals - making them easier to detect through trees, foliage, or uneven terrain.

Icon	Name	Description
	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.
	Brightness	Adjusts the overall intensity of the thermal display. Higher levels brighten the entire image, which can help in low-contrast or foggy conditions.
	Contrast	Controls the difference between hot and cold areas. Higher contrast highlights temperature variations and makes targets stand out.
	Sharpness	Fine-tunes the clarity of the thermal image. Increasing sharpness improves detail definition but may slightly enhance image noise in high-temperature contrast scenes.
	Palette	Select default color palettes for current Image Mode.

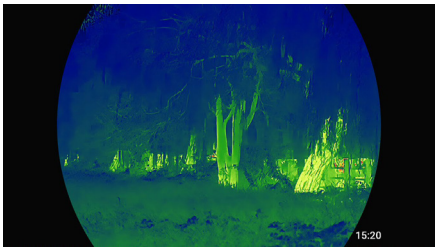
Available Thermal Palettes:

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

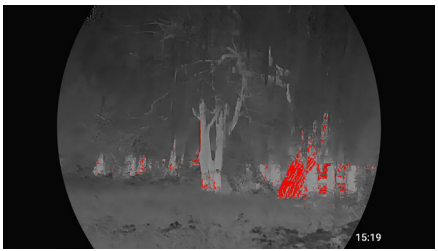
Sepia: Hotter objects appear amber. Higher temperatures produce brighter tones.



Green Hot: Hotter objects appear in red-to-yellow tones. Medium-temperature objects are shown in green, while colder areas are displayed in blue.



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.

4.1.5 IR LIGHT

The **IR Illuminator** enhances visibility in dark environments by projecting an invisible infrared beam that can be seen through the binocular's optical channel.

You can adjust illumination intensity or enable **Smart IR** for automatic brightness control based on ambient light.

Activation: From the main viewing screen, **short-press Button "4"** to toggle the IR illuminator and activate the previously selected mode.

Steps:

1. Press the **Control Wheel** to open the **Main Menu**.
2. Rotate the wheel to select **IR Light**.

3. Press the wheel to choose the desired mode:
    - **Low / Medium / High** – Sets a fixed brightness level.
    - **Smart IR** – Automatically adjusts intensity based on lighting and distance.

NOTE

Rotate the IR adjusting ring to adjust the beam width: a wider beam covers more area but reduces brightness.

Avoid pointing the IR beam at reflective surfaces to prevent glare or image distortion.

4.1.6 GALLERY

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

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

Steps

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

4.1.7 FUNCTIONALITIES

The **Functionalities** menu provides access to advanced tools and features that enhance the operation and user experience of your binocular.

These options allow you to customize display elements, enable useful tracking widgets, and optimize the device's performance for different observation scenarios and environmental conditions.

Table 4.1.7 Functionalities menu

Icon	Name	Description
	**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*** The marker dynamically updates as the scene changes.
	**Laser Ranging**	The **Laser Ranging** function determines how the binocular measures distances to a target. To ensure accurate readings, keep the binocular steady and avoid aiming at reflective or uneven surfaces. • Single Measurement: In this mode, the binocular emits a single laser pulse each time 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 binocular continuously measures and updates the target distance in real time for a selected duration (15 s, 30 s, or 60 s). This mode is useful for tracking moving targets or scanning across varied terrain. ***NOTE*** ***Laser radiation can cause serious eye injury. Never look directly into the laser beam or observe it through optical instruments.***

Icon	Name	Description
	**Palette Selection**	Enable or disable available color palettes for display in both Visible and Thermal modes. Use this option to customize which palettes appear in the quick-access list during operation.
	**Compass**	When active, the current heading is displayed at the top of the screen. To calibrate the compass: 1. Follow the on-screen instructions. 2. Within **20 seconds**, rotate the binocular smoothly along all **three axes**, ensuring each completes at least one full **360° rotation**. 3. Once the rotation phase is complete, the device will display a pop-up prompting you to point the device north. After aligning the device and confirming the north direction, the calibration process will finalize, and the system will return to the Main Menu. ***TIP*** ***Perform calibration outdoors and away from metal objects or magnetic interference for best accuracy.***
	**GPS**	After enabling the **GPS** function, the binocular will display your current geographic coordinates on the live screen. ***NOTE*** ***Ensure the device has a clear view of the sky for optimal satellite signal reception.***
	**Status Bar**	Show or hide the status bar at the top of the screen. For more details, see “3.5.5 Status Bar Display”.

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.
	**Record Audio**	Press the wheel to enable or disable audio recording. • On: Videos are recorded with sound. • Off: Videos are recorded without sound.
	**Burning Warning**	When the system detects a potential overheating risk for the lens, a warning message will appear on the screen and the shutter will automatically close to prevent damage. ***RECOMMENDATION*** ***Avoid aiming at extremely hot objects for long durations.***

4.1.8 SETTINGS

The **Settings** menu provides control over the binocular's core system parameters, allowing you to adjust power management, connectivity, display preferences, and general device behavior.

These options help you fine-tune performance, extend battery life, and tailor the binocular's operation to your individual needs and field conditions.

Table 4.1.8 Settings menu

Icon	Name	Description
	**NUC**	Corrects temperature drift and sensor noise to maintain image quality. • **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. For more details, see “4.1.8.1 Setting NUC”.
	**Pixel Correction**	Fixes defective (stuck or dead) pixels on the thermal sensor. • **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. For more details, see “4.1.8.2 Setting Pixel Correction”.
	**Sleep Mode**	Sets the period of inactivity after which the binocular enters low-power standby mode. Options: **Off, 1 min, 3 mins, 5 mins, 10 mins.** ***NOTE*** ***Press any button to wake the device from sleep.***
	**Shutdown**	Specifies the duration of inactivity before the binocular powers off automatically. Options: **Off, 5 mins, 10 mins, 30 mins, 60 mins**. Use this feature to conserve battery power during extended downtime.

Icon	Name	Description
	**Logo**	When enabled, the logo appears in the lower-left corner of the screen.
	**Pitch & Roll**	Displays the binocular's tilt and inclination relative to the horizon. These indicators help maintain proper horizontal alignment, ensuring stable observation and accurate orientation in the field. ***TIP*** ***Use this feature to verify that the binocular are level when observing from uneven ground or when mounting the device on a tripod for extended viewing.***
	**Wi-Fi**	• 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 "4.1.8.3 Wi-Fi Connection Setup".
	**USB Mode**	• **ON**: The binocular 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.

Icon	Name	Description
	**Time Settings**	• **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, except Wi-Fi credentials and zeroing profiles.
	**Format**	Deletes all images and videos stored in the device memory. It also deletes all images and videos stored in the device's internal memory.

4.1.8.1 SETTING NUC (NON-UNIFORMITY CORRECTION)

NUC (Non-Uniformity Correction) is used to enhance thermal image quality by compensating for minor temperature variations across the sensor. This ensures a uniform, high-contrast image and allows for more accurate detection of subtle temperature differences during operation.

Procedure

1. Press the **Control Wheel** to open the **Main Menu**.
2. Rotate the wheel to select **Settings → NUC**.
3. Press the wheel to access the **NUC configuration screen**.

Modes

- **Auto:**

  The binocular automatically performs flat-field calibration at regular intervals, maintaining consistent image quality during long observation sessions.

- **Semi-Auto:**

  Press the **Power button** at any time to manually trigger calibration. Use this mode when the image appears slightly uneven or blurred.
- **Manual:**

  Close the lens cover, then press the **Power button** to manually perform calibration. Recommended for fine control or when rapid temperature changes affect image stability.

TIP

Performing NUC regularly ensures optimal image uniformity and helps reduce fixed-pattern noise, especially after extended use or sudden environmental temperature shifts.

4.1.8.2 SETTING PIXEL CORRECTION

The **Pixel Correction** function allows you to repair defective pixels — such as hot, dead, or stuck pixels — on the thermal sensor to maintain a clear, high-quality image.

Procedure

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

Modes

- **Auto:**

  The binocular automatically detects and corrects defective pixels.
  1. Select **Auto**.
  2. Follow on-screen instructions to **close the lens cover**.
  3. Rotate the wheel to select **Confirm**, then press the wheel to begin correction.
- **Manual:**

  Allows you to manually locate and correct defective pixels.
  1. Press the wheel to select **X-axis** and **Y-axis**.
  2. Rotate the wheel to move the cursor over the defective pixel.
  3. Double-press the wheel to save the correction. The center of the cursor indicates the corrected pixel position.

- **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 static bright or dark points that remain fixed on the image — this will recalibrate the thermal sensor and restore optimal image clarity.

4.1.8.3 WI-FI CONNECTION SETUP

After enabling Wi-Fi, the binocular creates its own wireless hotspot, allowing you to connect a smartphone or tablet to access live view, media files, or control features through the **ATN Connect 6** 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 the **Control Wheel** to open the **Main Menu→Settings**.
3. Rotate the wheel to select **Wi-Fi**, then press to enter.
4. Enable Wi-Fi — the binocular will start broadcasting its own hotspot using 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. Launch the **ATN Connect 6** app, select your device, and follow the on-screen prompts to complete the connection.

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

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 binocular'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:

"Confirm to upgrade"

6. Select "Confirm" using 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 binocular will automatically restart.

5.2 FIRMWARE UPDATE VIA MOBILE APP

When the mobile app detects a new firmware version available for your binocular, 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 binocular 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 binocular 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 binocular to your computer.
   - The driver will install automatically during the first connection.

IMPORTANT

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

2. **Enable USB Mode**
   - Go to Settings > USB Mode > On.
3. **Access Files on the Computer**
   - On your desktop, open **This PC (My Computer)** → locate and open the **binocular 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**: –30 °C to +55 °C (–22 °F to +131 °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. FCC COMPLIANCE STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

This device may not cause harmful interference.

This device must accept any interference received, including interference that may cause undesired operation.

This device 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 device 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 device does cause harmful interference to radio or television reception, which can be determined by turning the device 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 device and the receiver.
- Connect the device 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.

WARNING

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The Effective Radiated Isotropic Power (ERIP) of this device is below 4mW (dBm). If the ERIP exceeds this limit, SAR testing is required to comply with FCC regulations.

9. PROP 65 WARNING

PROPOSITION 65 WARNING FOR CALIFORNIA CONSUMERS

For more information go to www.p65warnings.ca.gov

WARNING

This product can expose you to Nickel (Metallic), which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

EXPORT DISCLAIMER

Important Export Restrictions! Commodities, products, technologies and services contained in this manual are subject to one or more of the export control laws and regulations of the U.S. Government and they fall under the control jurisdiction of either the US Department of State or the US BIS-Department of Commerce. It is unlawful and strictly prohibited to export, or attempt to export or otherwise transfer or sell any hardware or technical data or furnish any service to any foreign person, whether abroad or in the United States, for which a license or written approval of the U.S. Government is required, without first obtaining the required license or written approval from the Department of the U.S. Government having jurisdiction. Diversion contrary to U.S. law is prohibited.

10. WARRANTY AND SUPPORT INFORMATION

5-YEAR LIMITED PRODUCT WARRANTY

Your ATN product is warranted to be free from defects in materials and workmanship under **normal use** for a period of **five (5) years** from the original date of purchase.

If a covered defect arises during the warranty period, ATN Corporation, at its discretion, will repair or replace the product. This action represents the full extent of ATN's liability, and the customer's exclusive remedy.

This warranty **does not cover**:

- Products used outside normal operating conditions or subjected to misuse, abuse, or unauthorized repair/modification.
- Products sold "as-is," special order, or discontinued items.
- Damage resulting from improper storage, handling, or operation with incompatible equipment.

This warranty applies **only to the original purchaser** and is **non-transferable**.

All implied warranties, including merchantability or fitness for a particular purpose, are expressly disclaimed.

LIMITATION OF LIABILITY

ATN shall not be liable for **any indirect, incidental, or consequential damages**, including loss of profit, data, or revenue.

ATN's total liability under this warranty is limited to the purchase price of the product.

Operation and use of the product are the sole responsibility of the customer.

PRODUCT WARRANTY REGISTRATION

To validate your warranty, please complete the Product Warranty Registration online at **www.atncorp.com** or mail the completed registration card to: **ATN Corporation 2400 NW 95 Ave, Doral, FL 33172, USA**.

OBTAINING WARRANTY SERVICE

To obtain service under warranty:

1. Contact ATN's Service Department at **(800) 910-2862** or **(650) 989-5100**, or email **service@atncorp.com** to receive a **Return Merchandise Authorization (RMA)** number.
2. Return the product (postage paid) with proof of purchase and a note describing the issue to: **ATN Corporation, 2400 NW 95 Ave, Doral, FL 33172, USA**.
3. Mark the **RMA number** clearly on the outside of the package.
4. Include your contact details (phone, email, return address).

ATN is not responsible for uninsured or improperly shipped items.

Service time: approximately 10–20 business days.

Customers are responsible for inbound shipping; ATN covers return shipping within the continental USA for valid warranty repairs.

NEED HELP?

For technical assistance, visit our support center:

www.atncorp.com/support

or contact our service team directly at

service@atncorp.com

FOR CUSTOMER SERVICE AND TECHNICAL SUPPORT,
PLEASE CONTACT

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