

GUOWENHA NV8160

GUOWENHA NV8160 Head-Mounted Night Vision Binoculars

User Manual

1. INTRODUCTION

Thank you for purchasing the GUOWENHA NV8160 Head-Mounted Night Vision Binoculars. This device is designed for enhanced observation in low-light and complete darkness conditions, suitable for activities such as hunting, camping, surveillance, and wildlife observation. Please read this manual thoroughly before operating the device to ensure proper use, optimal performance, and safety.

2. SAFETY INFORMATION

- Do not look directly at strong light sources (e.g., sun, laser) through the binoculars, as this may cause permanent eye damage or damage to the device's sensor.
- Keep the device away from water and moisture. The device has an IP54 rating, meaning it is protected from dust and splashing water, but it is not submersible.
- Do not attempt to disassemble or repair the device yourself. Contact qualified service personnel for any repairs.
- Use only recommended batteries and memory cards.
- Store the device in a cool, dry place when not in use.

3. PACKAGE CONTENTS

Please check the package to ensure all items are present:

- GUOWENHA NV8160 Night Vision Binoculars
- Head Mount Strap
- USB Type-C Cable
- User Manual (This document)
- Cleaning Cloth

4. PRODUCT OVERVIEW

Familiarize yourself with the components and controls of your NV8160 binoculars.



Figure 4.1: GUOWENHA NV8160 Night Vision Binoculars with the included head mount strap attached, showing the overall design and how it can be worn for hands-free operation.



Figure 4.2: Top view of the NV8160 binoculars, highlighting the control buttons. These include power, menu, mode, IR adjustment, zoom, and OK/capture buttons.

4.1. Controls and Ports

- **Power Button:** Turns the device on/off.
- **Menu Button:** Accesses the settings menu.
- **Mode Button:** Switches between photo, video, and playback modes.
- **IR Up/Down Buttons:** Adjusts the infrared illumination level (7 grades).
- **Zoom In/Out Buttons:** Adjusts the digital zoom (up to 8x).
- **OK/Capture Button:** Confirms selections, takes photos, or starts/stops video recording.
- **USB Type-C Port:** For charging and data transfer.
- **Memory Card Slot:** For inserting a microSD card (up to 32GB).
- **Eyepiece/LCD Screen:** 2.7-inch 640x480 TFT screen for viewing.

- **Objective Lenses:** For light collection and image formation.
- **IR Illuminator:** Emits infrared light for night vision.

5. SETUP

5.1. Battery Installation

The NV8160 uses a rechargeable battery (type not specified, assume internal or common rechargeable type). Ensure the device is fully charged before first use. Connect the provided USB Type-C cable to the device's USB port and to a compatible USB power adapter (not included) or computer USB port. The charging indicator will show the charging status.

5.2. Memory Card Installation

The device requires a microSD card (up to 32GB) to store photos and videos. Locate the memory card slot, typically covered by a rubber flap. Insert the microSD card with the gold contacts facing down (or as indicated by a diagram on the device) until it clicks into place. To remove, push the card gently until it springs out.

5.3. Head Mount Attachment

The NV8160 can be used hands-free with the included head mount strap.

1. Attach the binoculars to the mounting bracket on the head strap. Ensure it is securely fastened.
2. Adjust the straps to fit comfortably and securely around your head. The binoculars should be positioned directly in front of your eyes for optimal viewing.
3. Ensure the device is stable and does not obstruct your vision or cause discomfort.



Figure 5.1: The NV8160 binoculars detached from the head strap, with an inset showing the view through the eyepiece (a horse in daylight). This illustrates the device's versatility and display capabilities.

6. OPERATING INSTRUCTIONS

6.1. Power On/Off

Press and hold the **Power Button** for a few seconds to turn the device on. The LCD screen will illuminate. To turn off, press and hold the **Power Button** again until the screen shuts down.

6.2. Menu Navigation

Press the **Menu Button** to access the settings. Use the **IR Up/Down** and **Zoom In/Out** buttons to navigate through menu options. Press the **OK Button** to confirm a selection. Press **Menu** again to exit the menu.

Available settings include:

- Photo Resolution: 12M, 8M, 5M, 3M, 2M, 1.3M, VGA
- Video Resolution: 1080P (1440x1080@30FPS), 960P (1280x960@30FPS), VGA (640x480@30FPS)
- Auto Off: 1 min, 3 min, 5 min, 10 min, OFF
- Language: 12 options available

- Date and Time Setting
- Date Stamp Imprint

6.3. Mode Selection

Press the **Mode Button** to switch between Photo Mode, Video Mode, and Playback Mode.

6.4. Infrared (IR) Adjustment

In low-light or complete darkness, press the **IR Up** button to increase the infrared illumination level (7 grades available). Press the **IR Down** button to decrease it. Higher IR levels provide better visibility in darker conditions but consume more battery. The device features a 3W 850nm strong infrared spotlight.

The NV8160 utilizes a starlight-level sensor, allowing for observation in low-light conditions without immediate reliance on the IR illuminator, unlike many comparable products.

6.5. Digital Zoom Function

Use the **Zoom In** and **Zoom Out** buttons to adjust the digital zoom. The device offers 10x optical magnification and 8x digital zoom, providing a combined magnification effect for observing distant scenes.

6.6. Photo and Video Capture

- **Photo Mode:** Select Photo Mode using the **Mode Button**. Frame your subject and press the **OK Button** to take a picture.
- **Video Mode:** Select Video Mode using the **Mode Button**. Press the **OK Button** once to start recording, and press it again to stop recording.



Figure 6.1: A close-up view of the NV8160's eyepiece, displaying a black and white image of a rabbit. This demonstrates the device's night vision capability and screen clarity.

6.7. Color Effects

The device supports four color effects for viewing:

- **Color:** Standard full-color view (primarily in daylight or sufficient ambient light).
- **Black and White:** Classic night vision monochrome view.
- **Moonlight Green:** Traditional green night vision tint.
- **Film Negative:** Inverted color scheme.

These modes can typically be selected via the menu settings.



Figure 6.2: The NV8160 binoculars with the head strap, showing the display screen with a black and white image of a squirrel, illustrating one of the available color effects for night vision.

7. MAINTENANCE

- **Cleaning Lenses:** Use the provided cleaning cloth or a soft, lint-free cloth to gently wipe the objective lenses and eyepiece. Do not use abrasive materials or harsh chemicals.
- **Cleaning Body:** Wipe the body of the binoculars with a soft, damp cloth.
- **Storage:** When not in use for extended periods, remove the battery (if removable) and store the device in its protective case in a cool, dry environment.
- **Battery Care:** Recharge the battery regularly, even if not in use, to maintain its lifespan. Avoid fully discharging the battery frequently.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
Device does not power on.	Battery is depleted or not installed correctly.	Charge the battery. Ensure the battery is correctly inserted.

Problem	Possible Cause	Solution
Poor image quality in darkness.	IR illuminator level is too low or off. Lenses are dirty.	Increase the IR level. Clean the objective lenses.
Cannot take photos/videos.	No memory card inserted or card is full/corrupted.	Insert a compatible microSD card. Format or replace the card if full/corrupted.
Screen is blank or frozen.	Software glitch.	Perform a soft reset by holding the power button until it turns off, then restart. If problem persists, contact support.

9. SPECIFICATIONS

Model	NV8160
Photo Resolution	12M (4000x3000), 8M (3264x2488), 5M (2592x1944), 3M (2048x1536), 2M (1600x1200), 1.3M (1280x960), VGA (640x480)
Video Resolution	1080P (1440x1080@30FPS), 960P (1280x960@30FPS), VGA (640x480@30FPS)
Lens	F1.0, f=35mm, FOV=8.5°, 25mm diameter
LCD Screen	2.7-inch 640x480 ultra-high-definition TFT screen, 6.5x eyepiece magnifying glass (equivalent to 17.5-inch screen viewing)
Storage Media	MicroSD card, up to 32GB
USB Port	TYPE-C
Auto Off	1 min / 3 min / 5 min / 10 min / OFF
IR LED	3W, 850nm strong infrared spotlight, 7 grades infrared adjustment
View Distance (Complete Darkness)	Approx. 300-400 meters
View Distance (Low Light)	3 meters to infinity
Sensor	1.3 million pixels, star-level infrared enhanced CMOS sensor
IP Rating	IP54
Optical Magnification	10x
Digital Zoom	8x

10. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the product packaging or contact your retailer. Keep your purchase receipt as proof of purchase.

For further assistance, please visit the official GUOWENHA website or contact their customer service department.

