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› Xinfrared One XH09 Thermal Camera User Manual

Xinfrared XH09

Xinfrared One XH09 Thermal Camera for iPhone

USER MANUAL

1. Introduction

The Xinfrared One XH09 is a compact and powerful thermal imaging camera designed to transform your iPhone into a professional thermal inspection tool and night vision monocular. Utilizing advanced thermal technology, the XH09 provides high-resolution infrared imagery for a variety of applications, including home energy audits, electrical inspections, outdoor wildlife observation, and wilderness safety. This manual provides essential information for the proper setup, operation, and maintenance of your XH09 thermal camera.



Image: The Xinfared One XH09 thermal camera attached to an iPhone, demonstrating its dual functionality for outdoor observation and indoor inspection.

2. Safety Information

Please read and understand all safety instructions before using the Xinfared One XH09 thermal camera. Failure to follow these instructions may result in product damage, injury, or inaccurate readings.

- **Do not point the camera directly at the sun or other intense heat sources.** This can damage the thermal sensor.
- Keep the device away from water and moisture unless specifically designed for such conditions (refer to IP rating). The XH09 has an IP65 rating, offering protection against heavy rain and ocean waves.
- Avoid dropping the device or subjecting it to strong impacts.
- Do not attempt to disassemble or modify the device. Repairs should only be performed by authorized personnel.
- Use the device within its specified operating temperature range.
- Ensure your smartphone is securely attached when using the camera, especially with accessories like the smartphone bracket.

3. Package Contents

Verify that all items are present in your Xinfrared One XH09 package:

- Xinfrared One XH09 Thermal Camera Unit
- Smartphone Bracket/Handle
- Protective Carrying Case
- USB Charging Cable
- User Manual (this document)

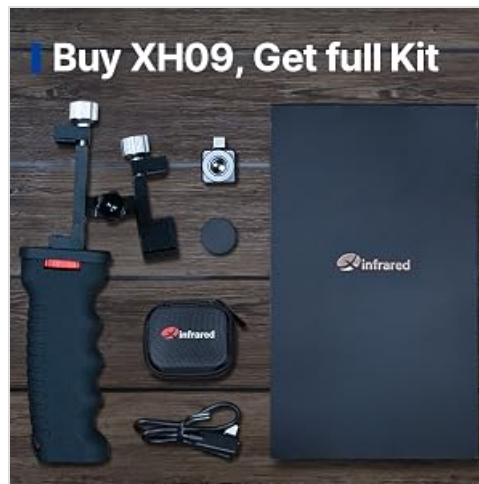


Image: The complete XH09 kit, including the thermal camera, smartphone handle, carrying case, and charging cable.

4. Product Overview

The Xinfrared One XH09 is a compact device designed to plug directly into your iPhone's Lightning port. It features a high-performance thermal sensor and a robust all-metal body. The device is controlled entirely through a dedicated mobile application on your smartphone, providing a user-friendly interface for thermal imaging and analysis.



5. Setup

Follow these steps to set up your Xinfraed One XH09 thermal camera:

1. **Download the Xinfraed App:** Search for the official Xinfraed application in the Apple App Store on your iPhone and install it.
2. **Connect the XH09:** Carefully plug the XH09 thermal camera unit into your iPhone's Lightning port. Ensure a secure connection.
3. **Secure Your Phone (Optional):** If using the included smartphone bracket, attach your iPhone to the bracket for enhanced stability and ergonomic handling.
4. **Launch the App:** Open the Xinfraed application. The app should automatically detect the connected XH09 device and display the thermal feed.

Note: The XH09 is not compatible with iPhone 15 models.



Image: The XH09 demonstrating compatibility with various smartphone and tablet setups, including a tripod mount.

6. Operating Instructions

Once the XH09 is connected and the app is launched, you can begin using your thermal camera.

- **Live Thermal View:** The app will display a live thermal image. You can observe temperature differences and heat signatures in real-time.
- **Focus Adjustment:** The XH09 features manual focus. Adjust the lens ring on the camera unit to achieve a clear thermal image for objects at different distances.
- **Color Palettes:** The app offers various color palettes (e.g., White Hot, Black Hot, Rainbow, Ironbow) to visualize temperature data. Select the palette that best suits your application and visual preference.
- **Image/Video Capture:** Use the on-screen controls within the app to capture still thermal images or record thermal videos. These files will be saved to your phone's gallery.
- **Digital Zoom:** Utilize the pinch-to-zoom gesture on your phone screen to digitally zoom in on areas of interest. The XH09 supports 2-15x digital zoom.



Image: Demonstrating the 2-15x digital zoom capability of the XH09 thermal camera.

7. Features and Functions

The Xinfared One XH09 incorporates several advanced features for enhanced performance:

- **X³ Super Algorithm:** This advanced algorithm enhances the effective IR resolution from a native 256×192 to 512×384, providing clearer and sharper thermal images.
- **Extended Detection Range:** With high-performance sensors, the XH09 offers a detection range of up to 870 meters, allowing for observation of distant objects.
- **50Hz High Frame Rate:** The 50Hz refresh rate ensures smooth and fluid thermal imaging, making it easier to track moving targets.
- **0.04°C High Sensitivity (NETD):** Featuring Altemp technology, the XH09 can detect minute temperature changes as small as 0.04°C, crucial for precise inspections and detailed thermal analysis.
- **IP65 Rating:** The all-metal body provides IP65 protection, making the device resistant to dust ingress and protected against water jets from any direction, suitable for use in heavy rain or near water.
- **Compound Bow Mode:** For outdoor enthusiasts, this mode includes 8 professional hunting reticles and 5 color options for improved targeting and observation.

X³ Super Algorithm

Achieving IR Resolution of 512 × 384



Image: Comparison showing the enhanced IR resolution of 512x384 with X³ Super Algorithm activated versus 256x192 without it.

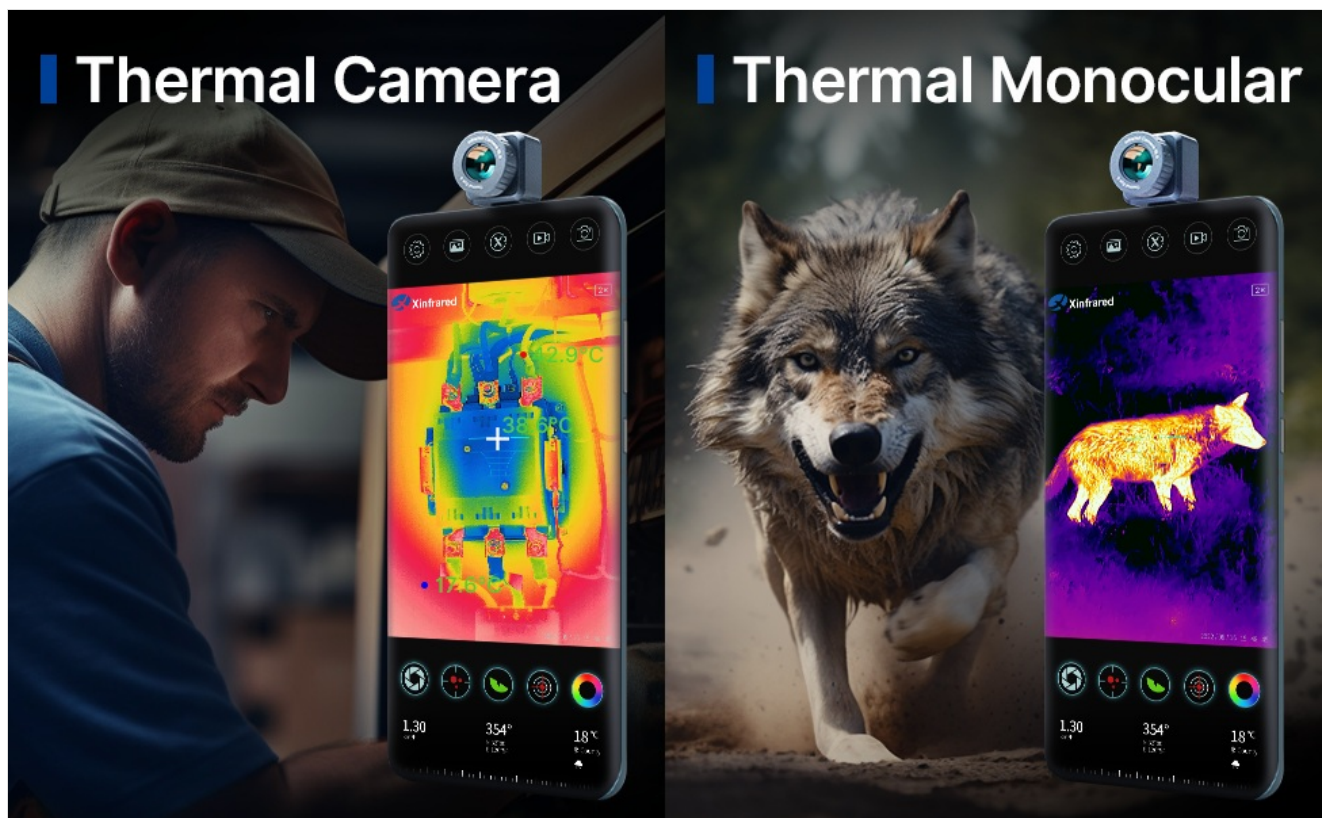


Image: Demonstrating the smooth imaging provided by the XH09's 50Hz high frame rate compared to a 9Hz device.



Image: The XH09's IP65 rating ensures protection against heavy rain and water exposure.

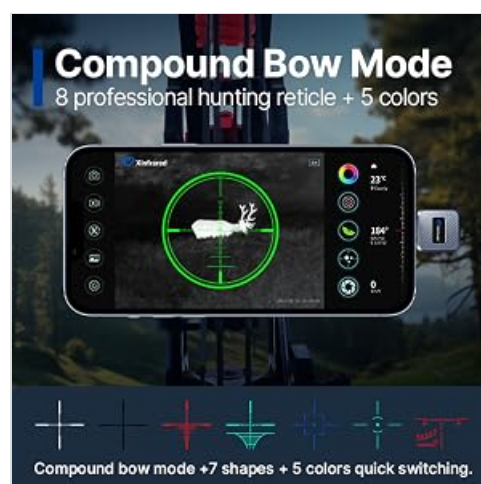


Image: The Compound Bow Mode, featuring multiple hunting reticles and color options for enhanced outdoor use.

8. Maintenance

- Proper care and maintenance will ensure the longevity and optimal performance of your Xinfrared One XH09 thermal camera.
- **Cleaning the Lens:** Gently wipe the thermal lens with a soft, lint-free cloth. For stubborn smudges, use a lens cleaning solution specifically designed for optics. Avoid abrasive materials or harsh chemicals.
 - **Cleaning the Body:** Wipe the device body with a clean, damp cloth. Do not use solvents or strong detergents.
 - **Storage:** When not in use, store the XH09 in its protective carrying case in a cool, dry place, away from direct sunlight and extreme temperatures.
 - **Software Updates:** Regularly check the Xinfrared app for available software updates to ensure you have the latest features and performance improvements.

9. Troubleshooting

If you encounter issues with your Xinfrared One XH09, refer to the following troubleshooting guide:

Problem	Possible Cause	Solution
Device not recognized by iPhone.	Loose connection, app not open, incompatible iPhone model.	Ensure the XH09 is securely plugged into the Lightning port. Open the Xinfrared app. Verify your iPhone model is compatible (not iPhone 15). Restart your iPhone.
Poor or blurry thermal image.	Out of focus, dirty lens, extreme environmental conditions.	Adjust the manual focus ring on the XH09 lens. Clean the lens with a soft, lint-free cloth. Ensure the target is within the optimal detection range.
App crashes or freezes.	Software glitch, insufficient phone resources.	Close and restart the Xinfrared app. Ensure your iPhone's operating system is up to date. Reinstall the app if the problem persists.
Inaccurate temperature readings.	Incorrect emissivity settings, environmental interference.	Adjust the emissivity setting in the app to match the material being measured. Avoid strong air currents or reflective surfaces.

10. Specifications

Key technical specifications for the Xinfrared One XH09 Thermal Camera:

- **IR Resolution:** 256×192 (Native), 512×384 (with X³ Super Algorithm)
- **Frame Rate:** 50Hz
- **Thermal Sensitivity (NETD):** 0.04°C (40mK)
- **Detection Range:** Up to 870 meters
- **Digital Zoom:** 2-15x
- **Focal Length:** 9 millimeters
- **Focus Type:** Manual Focus
- **Field Of View:** 50 degrees
- **Lens Coating:** Thermal-Optimized Coating
- **IP Rating:** IP65 (Protection against heavy rain & ocean waves)
- **Compatible Devices:** iPhone (excluding iPhone 15), iPad, Android smartphones (via appropriate adapter, if

applicable)

- **Item Weight:** 1.52 pounds
- **Package Dimensions:** 11.26 x 7.4 x 4.88 inches
- **Manufacturer:** InfiRay

11. Warranty and Support

The Xinfared One XH09 Thermal Camera is covered by a manufacturer's warranty. For specific warranty terms and conditions, please refer to the documentation included with your product or visit the official Xinfared website. For technical support, troubleshooting assistance, or service inquiries, please contact Xinfared customer support through their official channels.

Online Support: Visit the [Xinfared Store on Amazon](#) for product information and support resources.