Thermal Master X2 Android

Thermal Master X2 Thermal Camera for Android

User Instruction Manual

1. Introduction

The Thermal Master X2 is a high-performance thermal imaging monocular designed for use with Android smartphones. It offers advanced thermal detection capabilities, making it suitable for a wide range of applications including hunting, wildlife observation, wilderness rescue, home inspections, and electrical diagnostics. This manual provides detailed instructions on setting up, operating, and maintaining your X2 thermal camera to ensure optimal performance and longevity.

Figure 1.1: The Thermal Master X2 Thermal Camera system, showing the main camera module, the power handle, and a smartphone mount. The camera can be used independently or integrated with the handle for enhanced usability.

2. Product Features

- **Extended Detection Range:** The X2 boasts a detection range of up to 950 yards, allowing for long-distance observation of heat signatures.
- **X³ Super Algorithm:** This advanced algorithm enhances the infrared (IR) resolution from 256×192 to 512×384, providing ultra-clear and sharp thermal images. It incorporates Razor X and TEMP IQ+ technologies for a high sensitivity of 40mk, detecting temperature changes as small as 0.04°C.
- **High Frame Rate:** With a 50Hz high frame rate, the X2 delivers smooth and fluid imaging, crucial for tracking fast-moving targets without lag.
- **15X Digital Zoom:** Users can digitally zoom in from 1x to 15x, allowing for detailed inspection of distant objects.

- **Durable Construction:** Featuring an all-metal body and an IP65 rating, the X2 is designed to withstand heavy rain and harsh environmental conditions.
- **Transformer Kit:** The X2 is compatible with the "Transformer" accessory, which extends battery life up to 18 hours and offers 20 modification options, including integration with a compound bow, laser rangefinder, flashlight, and tactical helmet.

Figure 2.1: Demonstration of the X³ Super Algorithm, illustrating the enhanced 512x384 IR resolution compared to the standard 256x192 resolution.

Figure 2.2: The 15x digital zoom feature in action, allowing users to magnify thermal images for closer inspection of subjects like birds on a tree.

3. Setup

3.1 Unboxing and Components

Upon opening the package, ensure all components are present:

- Thermal Master X2 Camera Module
- Power Handle (Transformer)
- Smartphone Mount
- USB-C Cable
- User Manual (this document)
- Carrying Case

Note: The X2 camera module is typically placed inside the handle during shipping. Check the handle if the main zipper

bag appears empty.

3.2 App Installation

The Thermal Master X2 requires the "Thermal Master" application to function with your Android smartphone. Download the official app from the Google Play Store:
Search for "Thermal Master" in the Google Play Store or visit the official download page via your device's browser.

Figure 3.1: The "Thermal Master" application available for download on Android devices.

3.3 Device Compatibility

The Thermal Master X2 is designed for Android phones. It is crucial that your Android device supports**OTG (On-The-Go) functionality**. Without OTG support, the camera will not be able to connect and communicate with your phone. Please verify your phone's OTG compatibility before use.

3.4 Connecting the X2

1. Ensure the "Thermal Master" app is installed on your Android phone.
2. Carefully insert the USB-C connector of the X2 camera module into your smartphone's USB-C port.
3. If using the Transformer handle, attach the X2 camera module to the handle, and then mount your smartphone onto the handle's phone clamp. The handle provides power and stability.
4. Launch the "Thermal Master" app. The app should automatically detect and connect to the X2 camera.

Figure 3.2: The X2 camera module connected to an Android smartphone, displaying a thermal image comparison.

4. Operating Instructions

4.1 Basic Operation and App Interface

Once connected, the Thermal Master app will display the live thermal feed. The app interface provides various controls for adjusting settings, capturing images/videos, and analyzing thermal data. Familiarize yourself with the on-screen icons for different functions.

4.2 Zoom Functionality

The X2 supports 1x to 15x digital zoom. To adjust the zoom level, simply use a two-finger pinch-to-zoom gesture directly on your smartphone's screen within the Thermal Master app.

4.3 Image Enhancement and Sensitivity

The X2 utilizes the X³ Super Algorithm, Razor X, and TEMP IQ+ technologies to deliver high-quality thermal images.

These features work automatically to optimize image clarity and detect subtle temperature variations (down to 0.04°C).

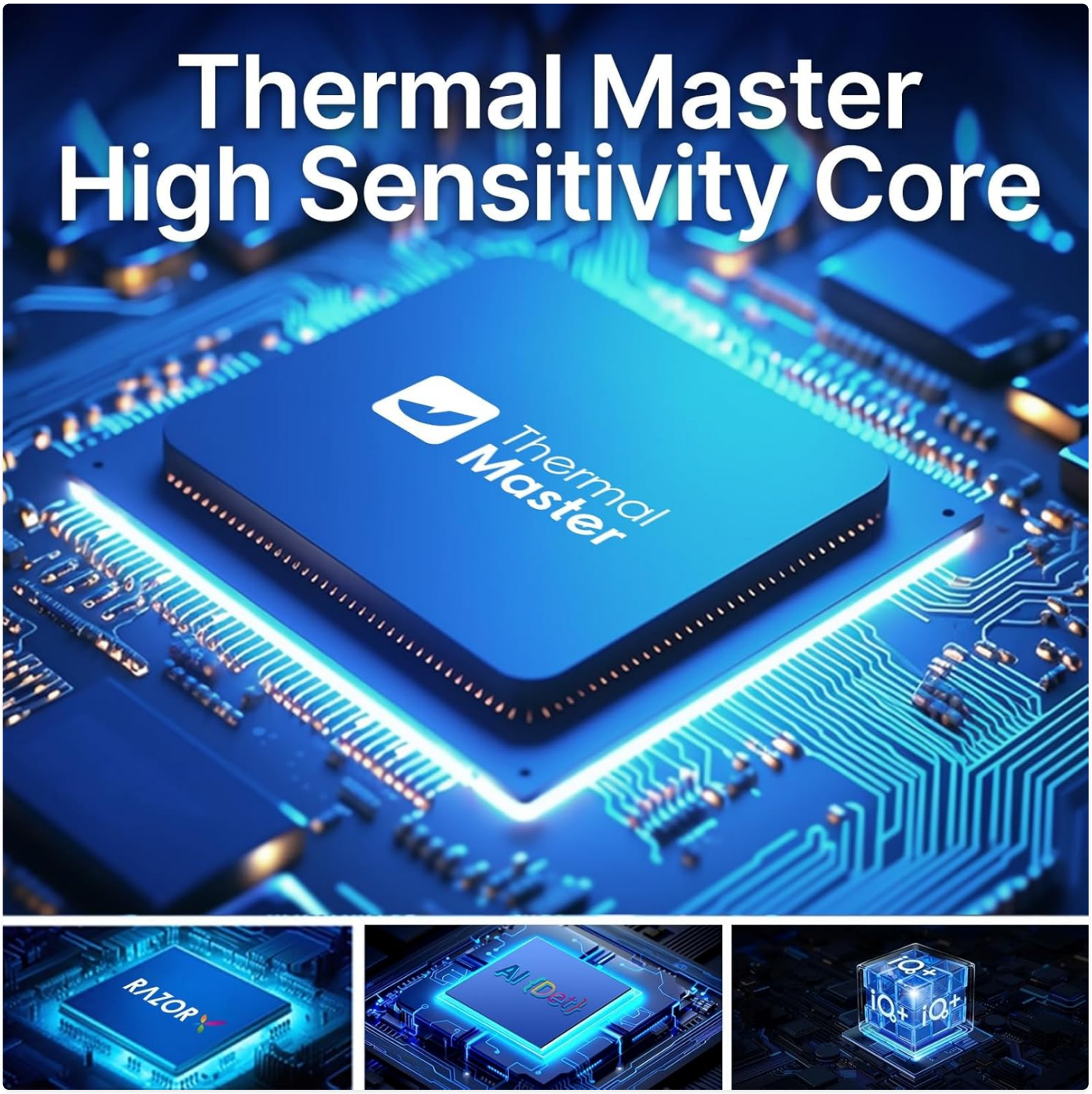


Figure 4.1: The Thermal Master High Sensitivity Core, which powers the X³ Super Algorithm for enhanced thermal imaging.

4.4 Display Modes and Color Palettes

The app offers various display modes and color palettes to suit different observation needs:

- **HD Mode:** Provides more image details, ideal for winter conditions.
- **Highlight Mode:** Makes targets stand out more, suitable for summer conditions.
- **9 Professional Reticles:** Various reticle options for precise targeting and measurement.
- **7 Color Palettes:** Choose from White Bird, Black Bird, White Hot, Black Hot, Red Hot, Iron Rain, and Rain Bow to visualize thermal data differently.

Figure 4.2: HD and Highlight modes for optimized image detail and target visibility.

Figure 4.3: Selection of 9 professional reticles for various applications.

Figure 4.4: The 7 available color palettes for thermal visualization.

4.5 Transformer Kit Usage

The Transformer kit enhances the X2's functionality and battery life. It provides up to 18 hours of operation and allows for integration with various accessories. The kit includes a power handle and a Titan Pad (optional) with inbuilt refit bolt holes for attaching additional equipment like a laser rangefinder or flashlight.

Figure 4.5: Components of the Transformer kit, including the power handle and optional accessories.

To use the Transformer kit:

1. Insert the X2 camera module into the designated slot on the Transformer power handle.
2. Mount your smartphone securely onto the adjustable clamp on the handle.
3. Connect the X2 to your phone via the USB-C cable. The handle will provide power to the X2 and your phone.
4. Optional accessories like laser rangefinders or flashlights can be attached to the rails or Titan Pad (if acquired separately).

4.6 Applications

The Thermal Master X2 is versatile and can be used in various scenarios:

- **Hunting & Wildlife Observation:** Easily spot animals like coyotes, deer, raccoons, and waterfowl at night or in dense foliage.
- **Wilderness Rescue & Camping:** Detect individuals or potential threats in low-visibility conditions, enhancing safety during outdoor activities.
- **Home Inspections:** Identify insulation gaps, drafts, moisture issues, and electrical hotspots within your home.
- **Electrical Inspection:** Pinpoint overheating components in electrical panels or circuits.
- **PCB Inspection:** Analyze heat distribution on printed circuit boards for diagnostics and design optimization.

Figure 4.6: Examples of industrial and home inspection applications.

Figure 4.7: Examples of outdoor and rescue applications.

5. Maintenance

5.1 Cleaning

- **Camera 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.
- **Device Body:** Clean the all-metal body and handle with a damp cloth. Do not submerge the device in water, despite its IP65 rating, to prevent damage to internal components or the USB-C port.

5.2 Storage

When not in use, store the Thermal Master X2 in its provided carrying case. Keep it in a cool, dry place, away from direct sunlight, extreme temperatures, and high humidity. This helps preserve the device's components and battery life.

5.3 Battery Care

The X2 uses a Lithium Ion battery (included, likely within the Transformer handle). To maximize battery lifespan:

- Charge the battery fully before first use.
- Avoid completely draining the battery before recharging.
- If storing for extended periods, charge the battery to approximately 50% capacity.
- Use only the provided USB-C cable and a compatible power adapter for charging.

6. Troubleshooting

Problem	Possible Cause	Solution
Device not connecting to phone / App not detecting X2.	◦ Phone lacks OTG (On-The-Go) capability. ◦ Loose or incorrect USB-C connection. ◦ "Thermal Master" app not installed or outdated. ◦ Phone's USB debugging or OTG setting disabled.	◦ Verify your Android phone supports OTG. Consult your phone's manual or manufacturer. ◦ Ensure the USB-C cable is fully inserted into both the X2 and your phone. Try a different USB-C port if available. ◦ Download and install the latest "Thermal Master" app from Google Play. ◦ Check your phone's developer options for USB debugging or OTG settings and enable them if necessary.
Poor image clarity or unexpected thermal readings.	◦ Dirty camera lens. ◦ Operating in extreme environmental conditions. ◦ Incorrect app settings (e.g., palette, mode).	◦ Clean the thermal lens gently with a soft, lint-free cloth. ◦ Ensure the environment is within the camera's operating temperature range. ◦ Adjust color palettes and display modes within the app to suit your observation needs.
Short battery life with Transformer kit.	◦ Transformer battery not fully charged. ◦ Excessive use of power-intensive phone features. ◦ Battery degradation over time.	◦ Ensure the Transformer battery is fully charged before use. ◦ Close unnecessary background apps on your phone. ◦ If battery life significantly degrades, contact customer support.

If you encounter issues not listed here or require further assistance, please refer to the Warranty and Support section.

7. Specifications

Feature	Detail

Feature	Detail
Model Number	X2 Android
IR Resolution	256×192 (Native), 512×384 (with X³ Super Algorithm)
Focal Length	9mm
Frame Rate	50Hz
Detection Range	Up to 950 yards
Digital Zoom	1X - 15X
Thermal Sensitivity	40mk (0.04°C)
Video Capture Resolution	1080p
Media Type	Micro SD Card (for storage via phone)
Power Source	1 Lithium Ion battery (included, within Transformer)
Battery Life (with Transformer)	Up to 18 hours
Ingress Protection (IP) Rating	IP65 (Dust tight and protected against water jets)
Item Weight	2.25 pounds
Package Dimensions	9.92 x 8.39 x 3.58 inches
Manufacturer	Thermal Master
Date First Available	December 27, 2024

Figure 7.1: Key specifications of the Thermal Master X2, including focal length, IR resolution, zoom, and frame rate.

8. Warranty and Support

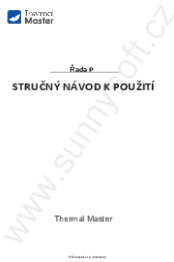
Thermal Master products are manufactured to high-quality standards. For specific warranty information regarding your X2 Thermal Camera, please refer to the warranty card included in your product packaging or visit the official Thermal Master website.

For technical support, troubleshooting assistance, or inquiries about replacement parts and accessories, please contact the manufacturer directly or reach out to the authorized seller from whom you purchased the product. The seller "Thermal Master Official" on Amazon can be contacted for support related to your purchase.

No official seller videos were found for this product to embed in this manual.

Model: X2 Android

Related Documents

	Thermal Master NV300 Max: Automotive AI Thermal Master User Manual and Guide Comprehensive guide for the Thermal Master NV300 Max, an AI-powered dual-spectrum automotive night vision system. Covers product features, installation, usage, performance parameters, and safety information.
	Thermal Master NV300 Max: Automotive AI Thermal Night Vision System User Guide Discover the Thermal Master NV300 Max, a cutting-edge dual-spectrum automotive night vision system. This guide covers product features, installation, usage, and safety information for enhanced driving safety.
	Thermal Master P Series Quick User Guide Concise guide to using Thermal Master P Series thermal cameras, covering safety, setup, features, specifications, and troubleshooting.

	[Thermal Master DV2 Quick Start Guide] A concise quick start guide for the Thermal Master DV2, covering product introduction, precautions, services, and warranty information.

Documents - Thermal Master – X2 Android

[pdf] User Manual

1 SchnellstartanleitungProduktübersicht X2 ist mit dem renommierten HD VOx Wärmebilddetektor von Thermal Master ausgestattet und verfügt über ein verstellbares 81s39CSlMXLm media amazon images I 81s39CSlMXL ref dp product quick view |||

Thermal Master X2 Schnellstartanleitung Vorsichtsmanahmen Schtzen Sie das Gert vor starken Vibrationen oder Sten durch herabfallende Gegenstnde, und halten Sie es von Magnetfeldstrungen fern. Richten Sie das Objektiv nicht auf eine starke Wrmequelle, z. B. die Sonne oder andere Objekte mit hohen...

lang:de score:13 filesize: 506.11 K page_count: 20 document date: 2024-12-09