



ARMASIGHT **SIDEKICK**
Thermal Monocular



USER MANUAL

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The European Union (EU) has enacted the Waste Electrical and Electronic Equipment Directive 2002/96/EC (WEEE), which aims to prevent EEE waste from arising; to encourage reuse, recycling and recovery of EEE waste; and to promote environmental responsibility.

In accordance with these regulations, all EEE products labeled with the “crossed out wheeled bin” either on the product itself or in the product literature must not be disposed of in regular rubbish bins, mixed with regular household or other commercial waste, or by other regular municipal waste collection means. Instead, and in order to prevent possible harm to the environment or human health, all EEE products (including any cables that came with the product) should be responsibly discarded or recycled.

To identify a responsible disposal method where you live, please contact your local waste collection or recycling service, your original place of purchase or product supplier, or the responsible government authority in your area. Business users should contact their supplier or refer to their purchase contract.

IMPORTANT INSTRUCTIONS AND NOTICES TO THE USER:

Modification of this device without the express authorization of Armasight Acquisition Corp. may void the user’s authority under FCC rules to operate this device.

Note: This equipment 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 equipment 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 equipment does cause harmful interference to radio or television reception (which can be determined by turning the equipment off and on), the user is encouraged to try to correct the interference by one or more of the following measures:

- Increase the separation between the equipment and receiver
- Connect the equipment to an outlet on a circuit different from that of the receiver
- Consult the dealer or an experienced radio/television technician for help

INDUSTRY CANADA NOTICE:

This Class B digital apparatus complies with Canadian ICES-003.

AVIS D'INDUSTRIE CANADA:

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

HOW TO USE THIS MANUAL

USAGE

You must familiarize yourself with this entire manual before operating the equipment. Before performing any kind of maintenance on your device, read the section on maintenance in its entirety. Follow all **WARNINGS, CAUTIONS and NOTES**.

MANUAL OVERVIEW

This Manual contains sections on operating and maintaining the Sidekick Thermal Monocular. Throughout this Manual, the Armasight Sidekick Thermal Monocular will be referred to as the Sidekick, “the equipment,” or “the device.”

SAFETY STATEMENT

Before operating this product, the user should carefully study this Operation and Maintenance Manual. The Armasight Sidekick Thermal Monocular is a precision electro-optical instrument and requires careful handling. To avoid physical danger to the user and damage to the equipment, follow all **WARNINGS, CAUTIONS and NOTES**.

Below are definitions of the alerts that will appear throughout the manual:

- **WARNING** – Identifies clear danger to the person operating the equipment.
- **CAUTION** – Identifies risk of damage to the equipment.
- **NOTE** – Highlights essential procedures, conditions, statements and important instructional information for the user.



WARNING:

This product contains natural rubber latex, which may cause allergic reactions. The FDA has reported an increase in the number of deaths associated with apparent sensitivity to natural latex proteins. If you are allergic to latex, it is good to learn which products contain it and strictly avoid exposure to those products.

CAUTION:

- Do not dismantle the equipment.
- Keep the equipment clean. Protect the equipment from moisture, dramatic temperature changes and electric shock.
- Do not drop or hit the equipment.
- To prevent thermal damage to the equipment, never point it, either on or off, directly at the sun or any source of high-intensity light that the unprotected human eye cannot tolerate (such as a welding arc). To prevent accidental exposure, never leave the equipment with the objective lens cap off. Inadvertent damage such as this is not a defect in material or workmanship and is **not** covered in the product warranty.
- Do not force the equipment controls past their stopping points.
- Do not leave the equipment on when not in use or during breaks in operation.
- Verify that the equipment is off before installing a battery.
- Do not store the equipment with the battery still inserted.
- Clean and dry each item thoroughly before placing them into the storage case.

NOTES:

- Retain all packaging materials in case any defective components need to be returned.
- The sensor must receive sufficient thermal contrast between the target and background area or between different target parts. For example, a vast temperature contrast exists between snow and any heat target (such as an animal), making the target exceptionally easy to distinguish.

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SECTION 1

INTRODUCTION

1.1 TYPE OF MANUAL

Operation and Maintenance.

1.1.2 PURPOSE OF EQUIPMENT

The Armasight Sidekick is a feature-rich thermal monocular that brings cutting-edge utility in a lightweight yet durable ULTEM composite body. The Sidekick can be used in all environmental conditions to improve object detection in low-contrast daylight, total darkness, or through smoke, haze and even light fog. With the ability to be used as a handheld or a head/helmet mounted device, the Sidekick offers users numerous options.

The Sidekick features user-selectable color palettes and presets, allowing for a wide range of customized options to best suit the specific needs presented by the environment or mission-specific needs. The Sidekick also comes equipped with a digital compass and inclinometer that help users calculate direction and angles.

1.2 KEY FEATURES

- Three buttons intuitive interface
- Multiple Color Palettes
- Digital Compass
- Digital Inclinometer
- Digital angle cosine indicator
- Image Detail Boost function
- Battery Status Indicator
- Power input capability
- Serial External Interface
- USB-C connectivity
- Onboard video recording and picture capture
- Picture in Picture Mode
- Functional and ergonomic design
- Made in the USA

1.3 WARRANTY INFORMATION AND REGISTRATION

1.3.1 WARRANTY INFORMATION

Armasight Standard Limited Warranty: Your Armasight product is guaranteed to be free of defects in materials and workmanship from the original date of purchase under the Armasight Standard Limited Warranty. The applicable Armasight Standard Limited Warranty period for each product is provided on our website, www.armsight.com.

Armasight Extended Limited Warranty: Armasight products properly registered with Armasight within a period of 60 days from the date of purchase are eligible for extended warranty coverage, at no additional charge, extending the length of the warranty in accordance with the table below. Any products not registered with Armasight within 60 days of the date of purchase will only be covered by the Armasight Standard Limited Warranty.

1.3.2 PRODUCT WARRANTY REGISTRATION

To register a product, visit www.armsight.com/warranty within a period of 60 days from the date of purchase. Registration of products will provide access to the following perks; The Extended Limited Warranty, product/software updates, troubleshooting and frequently asked questions, Armasight news, exclusive content and new product releases.

1.3.3 OBTAINING WARRANTY SERVICE

All products must be pre-approved and a Return Merchandise Authorization (RMA) issued by Armasight prior to return for warranty purposes. Return Authorizations may be requested through the Armasight Customer Care team by calling 888-504-ARMA or email us directly at support@armsight.com. Once your claim has been processed, you will receive a confirmation email containing your RMA number and PDF return form with detailed instructions on how to return your product.

Failure to obtain an RMA or follow the instructions provided on the return form may result in significant delays, as we will be unable to begin work on your unit until this documentation has been properly completed and received.

Shipping, postage, transportation, insurance, duties, taxes and delivery are the customer's responsibility. To ensure proper delivery, we highly recommend that you utilize a carrier that offers shipment tracking and delivery notification and insurance (e.g., UPS, FedEx, USPS). We reserve the right to request proof of purchase and to evaluate the Armasight brand products for exclusions.

SECTION 2

UNIT FEATURES, CONTROLS & QUICK START GUIDE

2.1 UNIT FEATURES

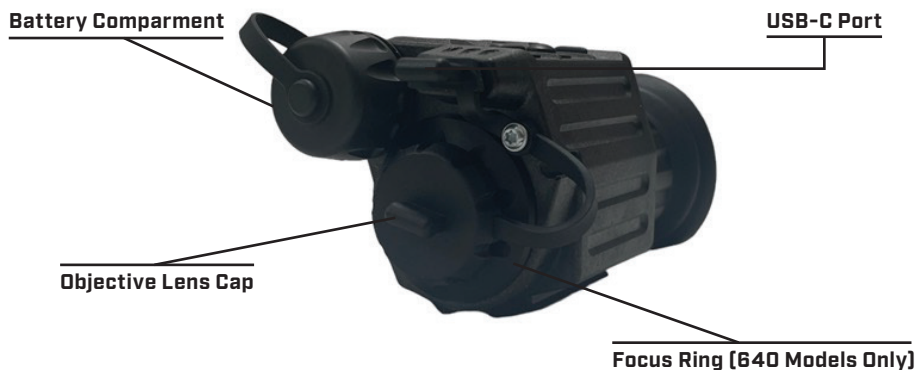


Fig. 1

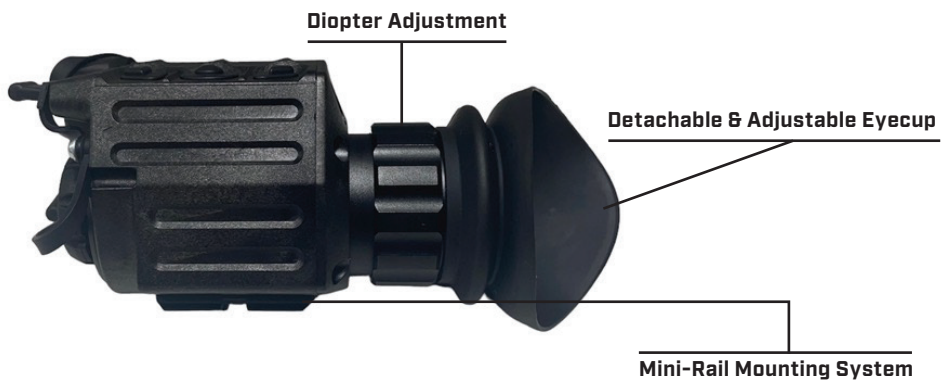


Fig. 2

2.2 CONTROLS



Fig. 3

2.3 SHORT CUTS

ITEM	FUNCTION	DESCRIPTION
B1	Single Press	Zoom: 1x/2x/4x When a menu is open: Navigate UP
	Press and Hold	Color Palette: Change Color Palette
B2	Single Press	Open Quick Menu. When a menu is open: Select/Deselect/Activate menu item
	Press and Hold	Open Detailed menu. When a menu is open: Exit menu/submenu
	Long Hold	Power On/Shutdown Unit
B3	Single Press	Start/Stop video recording. When a menu is open: Navigate DOWN
	Press and Hold	Snapshot: Hold down the button while on the idle screen to take a snapshot.
B1+B3	Single Press	FFC/NUC: Force FFC/NUC or cancel auto FFC/NUC timer.

2.4 QUICK START GUIDE

The Armasight Sidekick, in its standard configuration, uses one standard CR123A Lithium or one CR123 type rechargeable battery with voltage from 3.0V to 3.7V. The Sidekick also includes a battery compartment extension that allows for the use of two CR123A batteries or a single 16650 rechargeable battery with a voltage of 2.6V – 12V.

PLEASE NOTE: Rechargeable batteries cannot be recharged by the USB-C port of the Sidekick while the batteries are in the unit. Rechargeable batteries must be removed from the device in order to be recharged.

The Sidekick can also be powered by an external power bank via the USB-C port. Any commercially available external power bank with a min. output of 5V/500mA can be used.

2.4.1 BATTERY INSTALLATION

Verify that the equipment is off before installing battery. Install battery as follows:

1. Unscrew the battery cap.
2. Insert the CR123A battery into the battery compartment, observing the polarity markings on the body of the monocular.
3. Replace the battery cap.

2.4.2 BATTERY COMPARTMENT EXTENSION INSTALLATION

Verify that the equipment is off before installing battery compartment extension. Install battery compartment extension as follows:

1. Unscrew the battery cap.
2. Remove battery from compartment (if present).
3. Remove the battery cap tether from the Sidekick.
4. Thread the battery compartment extension onto the battery compartment of the Sidekick.
5. Attach battery cap tether to the threaded end of the battery compartment extension.
6. Insert two CR123A batteries or a single 16650 rechargeable battery into the compartment, observing the polarity markings on the body of the monocular.
7. Thread the battery cap onto the end of the battery compartment extension.

2.4.3 EXTERNAL POWER SOURCE

Connect an external power source to the Sidekick via the USB-C port. If a battery is currently in the unit while connected to an external power source, then the unit will receive its power from the external source and the battery will not be used. A battery does not need to be in the unit when connected to an external power source.

2.5 DIOPTER ADJUSTMENT RING

The diopter adjustment ring allows a user to adjust the eyepiece to accommodate the user's individual eyesight for optimum image sharpness. While looking through the device, rotate the diopter adjustment ring until the display icons (compass, menus, Armasight logo) become clear and sharp.

2.6 FRONT FOCUS RING [Sidekick 640 models only]

While looking through the device, rotate the front focus ring until the scene or object at the desired distance becomes clear. For Sidekick 320 models, the focus is fixed/non-adjustable and is set to infinity.

2.7 USB-C CONNECTION PORT

The Sidekick is equipped with a USB-C port that performs several functions:

2.7.1 POWERING THE DEVICE VIA USB-C

See Section 2.4.3 EXTERNAL POWER SOURCE, on page 12.

2.7.2 UPLOADING FILES TO A PC OR MAC

To upload video recordings and image files from the Sidekick to a PC or Mac:

1. Make sure the device is powered off.
2. Connect a cable to the USB-C port of the Sidekick and connect the other end of the cable to a USB input on the PC/Mac.
3. Turn the device on.
4. The device can now be recognized by the PC/MAC as a mass storage device. You can now move files from the device to your PC/MAC.

2.8 MINI-RAIL MOUNTING SYSTEM

The Sidekick uses the Mini-Rail mounting system for attaching the device to a mount for use on a helmet or head harness.

There are many mount options available from various manufactures for the Mini-Rail interface, and each mount type varies in design. To attach the Sidekick to a mount: slide the Sidekick's Mini-Rail into the dovetail of the mount, align the cross slot with the locking mechanism of the mount, lock the Mini-rail into place using the locking mechanism of the mount that is being used (i.e.; screw, latch, cross bolt, etc.)

2.9 PALETTE OPTIONS

In order to change the color palette press and hold B1. In order to cycle through the available color palette options, you will need to Press and Hold B1 every time you want to change the palette.

White Hot:

The most commonly used palette, white hot, displays warmer and cooler objects in grayscale. A white hot palette offers simplicity for scenes with a wide temperature span while generating images with realistic details. The versatility of white hot makes it appealing for use in shifting landscapes and urban areas and is often used to monitor and for surveillance.

Black Hot:

Black hot is the inverted version of white hot, displaying warmer objects as black and cooler objects as white. A favorite among law enforcement and hunters, black hot displays body heat in clear, life-like images.

Rainbow:

The rainbow scene is full of colors to display temperature differences and is best suited for scenes with minimal heat change. Rainbow uses shades of blue, purple and green for cooler temperatures to red and shades of yellow in the warmer parts of the scene. Focusing on an area with similar heat energy allows the user to detect objects and slight temperature changes despite low contrast conditions and is often applied to a building survey.

Target:

Target is a special thermal imaging palette. It has fully shown ergonomic considerations to users' actual thermal hunting needs. The hot target highlight palette is designed to apply the unique internal electrical processes which can lead the background of thermal imaging to turn into white shades. The target is highlighted in dark to "frame" the prey in the field of vision of hunters. This setting is most useful on high humidity nights or when viewing the horizon.

Sepia:

A version of the white hot palette, sepia adds yellow shades to your scene. The warm parts of the scene are a golden yellow and turn almost white in the hotter parts of the scene. Because the golden hues are easier on the eyes, sepia is suggested for prolonged surveillance or long viewing operations.

2.10 DISPLAY ICONOLOGY AND FEATURES

There are three levels of indications on the screen. The top left shows the current palette, the top center shows the compass in degrees and direction, the top right shows zoom and the battery indicator. On the second level are the inclinometer, and tilt. The third level is the count of pictures and videos in the lower left, and the current memory mode, either USB or card in the lower right.



Fig. 4

SECTION 3

QUICK MENU

The quick adjustments can be accessed from the **QUICK MENU**.

To display **QUICK MENU**:

1. Press B2 (Center).
2. Once the Quick Menu is displayed, use B1 and B3 to navigate up and down within the submenu.
3. Once the desired submenu is highlighted, push B2 to select it and use B1 and B3 to navigate through it.
4. Press and Hold B2 to exit.

3.1 PRESETS

The Sidekick has a group of default settings that are optimized for performance in various environmental conditions.

PRESET OPTIONS

Default: A universal preset for all-weather and scene conditions.

Sky/Sea: This preset will improve contrast in-plane scenes.

Indoors: This will enhance low brightness scenes.

Detect: This sets a hot target colorization.

Forest: A preset intended for a high brightness scene.



Fig. 5

3.2 DISPLAY BRIGHTNESS

To change the display brightness, press B2 (center) and then highlight the Brightness menu. Once highlighted, press B2 to enter the Brightness menu, and then use B1 and B3 to navigate to the desired brightness setting. Press B2 to select the setting. Press and hold B2 to exit menu.



Fig. 6

3.3 GUI ROTATE

The Sidekick has a feature called GUI Rotate (Graphic User Interface) that will automatically rotate the image in the display 180 degrees depending on the orientation the Sidekick is being used in. This feature can be turned On or Off in the GUI rotate submenu by highlighting the GUI Rotate menu and pressing B2 to select. Once selected, use B1 and B3 to turn auto rotate on or off. Press and hold B2 to exit.



Fig. 7

SECTION 4

DETAILED MENU

Most setup options can be accessed from the **DETAILED** menu. To display the DETAILED menu, press and hold B2. Once the DETAILED menu is displayed, B1 and B3 to navigate through the submenus. Once the desired submenu is highlighted, push B2 to select it and B1 and B3 to navigate through it.

4.1 ENHANCEMENT MENU

The **ENHANCEMENT** menu allows you to adjust the image settings. When the item is active, it is highlighted in the menu. Above the menu, the actual functions are displayed as an example: **ENHANCEMENT: CONTRAST**. To select and adjust one of the enhancement parameters, navigate to the desired enhancement setting by using B1 and B3 to highlight the setting. Once the desired setting is highlighted, press B2 to select the setting and then use B1 and B3 to adjust the value of that setting. Press and hold B2 to exit.



Fig. 8

- **Contrast**

Contrast is the difference in luminance that makes an object distinguishable within the same field of view—the value changes between 0 to 25, where 0 means no contrast.

- **Sharpness**

Sharpness determines the amount of detail in an image. The sharpness is affected by the lens size and sensor resolution—the value changes between 0 to 10, where 0 means no sharpness.

Brightness

Brightness refers to how much light appears to shine from an object—the value changes between 0 to 25, where 0 means no brightness.

- **Gamma**

Gamma correction is a nonlinear operation used to encode and decode luminance values in still images. The value changes between 0 to 10, where 0 means no gamma.

- **Gain**

Gain is a digital multiplication of the brightness in an image—the value changes between 0 to 10, where 0 means no gain.

- **Shutter Mode**

The Shutter Mode allows the user to turn the auto FCC/NUC feature On and Off.

- **Picture in Picture (PiP)**

PIP provides a picture in picture zoomed image of the target. There are 3 position options to choose: LEFT, CENTER, RIGHT.



Fig. 9

4.2 RECORDING MENU

The **RECORDING** menu allows you to preview or delete saved files. You can also format the memory if necessary. Formatting will erase all files from the unit.

You can preview files, play, delete or format the memory. You cannot be connected to a PC when using this function. To exit, push and hold B2.



Fig. 10

4.3 COMPASS

Press to adjust the compass appearance. You can select to hide or show a simple (degrees only) compass.

Select the **CALIBRATE** menu and then rotate the device in all directions to calibrate the compass. When done, it will show **SUCCESS**. To exit, push and hold B2 for 3 seconds. If the device shows "Failed", you must perform the process again until you see "Success". The compass will then be calibrated.

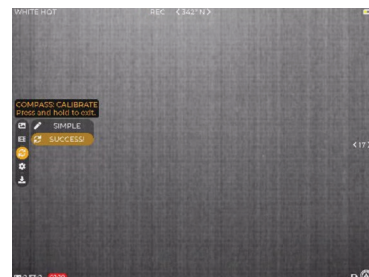


Fig. 11

4.4 SETTINGS MENU

• Margins

Shifts the image on the display left/right and up/down. This feature is used to aid in visual alignment when pairing a Sidekick with a night vision monocular.

To adjust the Margins; highlight either the Horizontal Margin or the Vertical Margin, and then press B2 to select the desired margin direction. Once the margin direction has been selected, use B1 and B3 to adjust. Once the desired margin adjustment has been made, press and hold B2 to deselect the margin direction selection.

B1 = +/-Left/Up

B3 = -/Right/Down

• Factory Reset

Resets the camera to factory defaults.

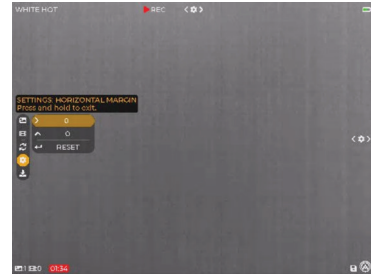


Fig. 12

4.5 ABOUT MENU

This menu shows the software versions of the unit, core serial number, and the sensor ID.

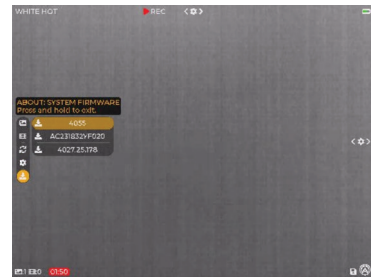


Fig. 13

PRODUCT QUESTIONS

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TECHNICAL SUPPORT

support@armasight.com

CONNECT WITH US

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www.armasight.com

